



# ***STIC Search Report***

**EIC 1700**

**STIC Database Tracking Number: 169400**

**TO: Michael Bernshteyn**

**Location:**

**Art Unit : 1713**

**October 25, 2005**

**Case Serial Number: 10/523824**

**From: Kathleen Fuller**

**Location: EIC 1700**

**REMSEN 4B28**

**Phone: 571/272-2505**

**Kathleen.Fuller@uspto.gov**

## **Search Notes**



# STIC Search Results Feedback Form

**EIC17000**

Questions about the scope or the results of the search? Contact *the EIC searcher* or contact:

Kathleen Fuller, EIC 1700 Team Leader  
571/272-2505 REMSEN 4B28

## Voluntary Results Feedback Form

- I am an examiner in Workgroup:  Example: 1713
- Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature  
(journal articles, conference proceedings, new product announcements etc.)

- Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

**SEARCH REQUEST FORM**

Scientific and Technical Information Center

Requester's Full Name: MICHAEL BERNSTEIN Examiner #: 81515 Date: 10/24/05  
Art Unit: 1713 Phone Number 30 2-2411 Serial Number: 10/523824  
Mail Box and Bldg/Room Location: \_\_\_\_\_ Results Format Preferred (circle): PAPER DISK E-MAIL

**If more than one search is submitted, please prioritize searches in order of need.**

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: \_\_\_\_\_

Inventors (please provide full names): \_\_\_\_\_

Earliest Priority Filing Date: 08/06/2002

*\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

*Please, find formulas (1), (2), and (3)*  
*Thank you*

**STAFF USE ONLY**Searcher: K. Fuller

Searcher Phone #: \_\_\_\_\_

Searcher Location: \_\_\_\_\_

Date Searcher Picked Up: \_\_\_\_\_

Date Completed: 10/25/05Searcher Prep & Review Time: 40

Clerical Prep Time: \_\_\_\_\_

Online Time: 44**Type of Search**

NA Sequence (#) \_\_\_\_\_

AA Sequence (#) \_\_\_\_\_

Structure (#) 3

Bibliographic \_\_\_\_\_

Litigation \_\_\_\_\_

Fulltext \_\_\_\_\_

Patent Family \_\_\_\_\_

Other \_\_\_\_\_

**Vendors and cost where applicable**STN 430

Dialog \_\_\_\_\_

Questel/Orbit \_\_\_\_\_

Dr.Link \_\_\_\_\_

Lexis/Nexis \_\_\_\_\_

Sequence Systems \_\_\_\_\_

WWW/Internet \_\_\_\_\_

Other (specify) \_\_\_\_\_

10/523824

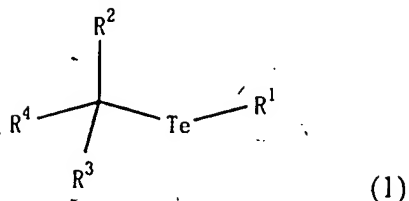
BT01 Rec'd PCT/PTC 04 FEB 2005

Amendments to the Claims

371 of PCT 08/06/2002

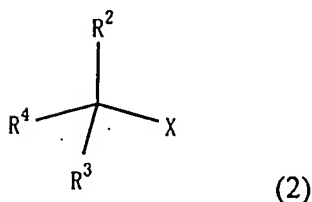
FD

1. (Currently amended) An organotellurium compound represented by the formula (1)



wherein R<sup>1</sup> is C<sub>1</sub>-C<sub>8</sub> alkyl, R<sup>2</sup> and R<sup>3</sup> are each a hydrogen atom or C<sub>1</sub>-C<sub>8</sub> alkyl, and R<sup>4</sup> is ~~aryl, substituted aryl, an aromatic heterocyclic group, hydroxycarbonyl group~~ or cyano.

2. (Original) A process for preparing an organotellurium compound of the formula (1) comprising reacting a compound of the formula (2), a compound of the formula (3) and metallic tellurium



wherein R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are as defined above, and X is a halogen atom



wherein R<sup>1</sup> is as defined above, M is an alkali metal, alkaline earth metal or copper atom, and m is 1 when M is an alkali metal, m is 2 when M is an alkaline earth metal, or m is 1 or 2 when M is a copper atom.

I  
3. (Original) An organotellurium compound of the formula (1) which is obtainable by reacting a compound of the formula (2), a compound of the formula (3) and metallic tellurium.

=> FILE REG

FILE 'REGISTRY' ENTERED AT 10:16:33 ON 25 OCT 2005

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2005 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 24 OCT 2005 HIGHEST RN 865981-77-7

DICTIONARY FILE UPDATES: 24 OCT 2005 HIGHEST RN 865981-77-7

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

Please note that search-term pricing does apply when conducting SmartSELECT searches.

\*\*\*\*\*  
\*  
\* The CA roles and document type information have been removed from \*  
\* the IDE default display format and the ED field has been added, \*  
\* effective March 20, 2005. A new display format, IDERL, is now \*  
\* available and contains the CA role and document type information. \*  
\*  
\*\*\*\*\*

Structure search iteration limits have been increased. See HELP SLIMITS for details.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

=> FILE HCAPLU

FILE 'HCAPLUS' ENTERED AT 10:16:38 ON 25 OCT 2005

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 25 Oct 2005 VOL 143 ISS 18

FILE LAST UPDATED: 24 Oct 2005 (20051024/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> D QUE

L4 31 SEA FILE=REGISTRY ABB=ON (106911-77-7/BI OR 109-72-8/BI OR  
131589-87-2/BI OR 137317-43-2/BI OR 14804-61-6/BI OR 160376-84-  
1/BI OR 20334-43-4/BI OR 24991-47-7/BI OR 25034-86-0/BI OR  
25038-87-3/BI OR 25067-61-2/BI OR 25249-16-5/BI OR 28554-25-8/B  
I OR 32294-60-3/BI OR 415679-75-3/BI OR 474094-06-9/BI OR  
55214-85-2/BI OR 585-71-7/BI OR 600-00-0/BI OR 652-28-8/BI OR  
658058-30-1/BI OR 658058-31-2/BI OR 658058-32-3/BI OR 658058-33  
-4/BI OR 658058-34-5/BI OR 658058-35-6/BI OR 68120-42-3/BI OR  
77129-69-2/BI OR 9003-42-3/BI OR 9003-53-6/BI OR 9011-14-7/BI)  
L5 STR

Te^G2 G3^C^Te^G1  
@5 6 1 2 3 4

*4,234 structures from the query*

Cy@7

VAR G1=5/AK/7  
VAR G2=AK/7  
VAR G3=AK/7/CN  
NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
GGCAT IS UNS AT 7  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 7

STEREO ATTRIBUTES: NONE  
L7 4234 SEA FILE=REGISTRY SSS FUL L5  
L19 STR

Ak@6 G1^Te^Te^G1  
1 2 3 4

*353 structures from the query*

Cy@5

VAR G1=5/6  
NODE ATTRIBUTES:  
CONNECT IS E2 RC AT 2  
CONNECT IS E2 RC AT 3  
CONNECT IS E1 RC AT 6  
DEFAULT MLEVEL IS ATOM  
GGCAT IS UNS AT 5  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 6

STEREO ATTRIBUTES: NONE

L21 353 SEA FILE=REGISTRY SSS FUL L19  
 L22 3 SEA FILE=REGISTRY ABB=ON L4 AND L21  
 L23 4233 SEA FILE=REGISTRY ABB=ON L7 NOT L22  
 L24 1 SEA FILE=REGISTRY ABB=ON TELLURIUM/CN  
 L25 1832 SEA FILE=HCAPLUS ABB=ON L23  
 L26 924 SEA FILE=HCAPLUS ABB=ON L25(L) PREP/RL  
 L27 30114 SEA FILE=HCAPLUS ABB=ON L24  
 L28 153 SEA FILE=HCAPLUS ABB=ON L26 AND L27  
 L29 22 SEA FILE=HCAPLUS ABB=ON L26(L) CAT/RL  
 L30 4 SEA FILE=HCAPLUS ABB=ON L28 AND L29  
 L31 11 SEA FILE=HCAPLUS ABB=ON L29 AND (TE OR TELLURIUM OR L27)  
 L32 11 SEA FILE=HCAPLUS ABB=ON L30 OR L31  
 L34 22 SEA FILE=HCAPLUS ABB=ON L29 OR L32  
 L35 7 SEA FILE=HCAPLUS ABB=ON L26(L) INITIAT?  
 L36 23 SEA FILE=HCAPLUS ABB=ON L34 OR L35

=&gt; D L36 BIB ABS IND HITSTR 1-23

L36 ANSWER 1 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:428591 HCAPLUS

DN 142:454333

TI Radiation-sensitive chemically amplified positive-working resists

IN Nishimura, Isao; Kobayashi, Eiichi; Seyano, Akimasa; Wang, Yong

PA JSR Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 44 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2005128049	A2	20050519	JP 2003-360291	20031021
PRAI	JP 2003-360291		20031021		

OS MARPAT 142:454333

AB The resists comprise alkali-insol. polymers having acid-labile groups increasing solubility in alkaline solns. upon contact with acids, and radiation-sensitive acid generators, wherein the polymers are prepared by using RbC(Rc)(Rd)TeRa [Ra = C1-8 alkyl, (substituted) aryl, atom. heterocycle; Rb, Rc = H, C1-8 alkyl; Rd = (substituted) aryl, aromatic heterocycle, acyl, etc.], and optionally ditellurides (RaTe)<sub>2</sub> as radical living polymerization initiators. In the polymerization, radical polymerization initiators may

also be employed. The polymers has narrow mol.-weight distribution peaks with small lot-to-lot fluctuation and resultant resists show high transparency and sensitivity for far UV, x rays, and electron rays, and high dry etching resistance, and provide fine patterns with good profile.

IC ICM G03F007-039

ICS C08F004-72; H01L021-027; C08F020-00

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 35, 38

ST radiation sensitive chem amplified pos resist

IT Positive photoresists

(far UV; radiation-sensitive pos.-working resist containing polymer prepared by using radical living polymerization)

IT Polymerization catalysts

(living, radical, tellanyl compound; radiation-sensitive pos.-working resist containing polymer prepared by using radical living polymerization)

IT Polymerization  
(living, radical; radiation-sensitive pos.-working resist containing polymer prepared by using radical living polymerization)

IT Electron beam resists  
Resists  
X-ray resists  
(pos.-working; radiation-sensitive pos.-working resist containing polymer prepared by using radical living polymerization)

IT 144317-44-2, Triphenylsulfonium nonafluoro-n-butanesulfonate  
RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)  
(acid generator, resist component; radiation-sensitive pos.-working resist containing polymer prepared by using radical living polymerization)

IT 340964-38-7P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(alkali-insol., resist component; radiation-sensitive pos.-working resist containing polymer prepared by using radical living polymerization)

IT 109-72-8, n-Butyllithium, reactions 600-00-0, Ethyl 2-bromo-isobutyrate 917-54-4, Methyllithium  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(in preparation of tellanyl radical living polymerization initiator; radiation-sensitive pos.-working resist containing polymer prepared by using radical living polymerization)

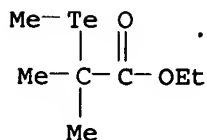
IT 20334-43-4P, Dimethyl ditelluride 77129-69-2P, Di(butyl) ditelluride 474094-06-9P 658058-35-6P  
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)  
(radical living polymerization initiator, for preparing polymer; radiation-sensitive pos.-working resist containing polymer prepared by using radical living polymerization)

IT 78-67-1, AIBN 2589-57-3, MAIB  
RL: CAT (Catalyst use); USES (Uses)  
(radical polymerization initiator, for preparing polymer; radiation-sensitive pos.-working resist containing polymer prepared by using radical living polymerization)

IT 474094-06-9P 658058-35-6P  
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)  
(radical living polymerization initiator, for preparing polymer; radiation-sensitive pos.-working resist containing polymer prepared by using radical living polymerization)

RN 474094-06-9 HCAPLUS

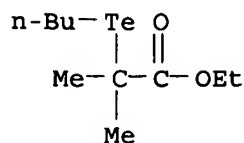
CN Propanoic acid, 2-methyl-2-(methyltelluro)-, ethyl ester (9CI) (CA INDEX NAME)



RN 658058-35-6 HCAPLUS

CN Propanoic acid, 2-(butyltelluro)-2-methyl-, ethyl ester (9CI) (CA INDEX NAME)





L36 ANSWER 2 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:428239 HCAPLUS

DN 142:464450

TI Acid-dissociating group-containing acrylic polymers with narrow molecular weight distribution and their manufacture

IN Nishimura, Isao; Wang, Yong; Kameshima, Takashi

PA JSR Ltd., Japan; Otsuka Chemical Co., Ltd.

SO Jpn. Kokai Tokkyo Koho, 37 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2005126459	A2	20050519	JP 2003-360290	20031021
PRAI	JP 2003-360290		20031021		
OS	MARPAT 142:464450				

AB The polymers, especially useful for lithog., are manufactured in the presence (1) R1TeCR2R3R4 [I; R1 = C1-8 alkyl, (un)substituted aryl, aromatic heterocyclic; R2,3 = H, C1-8 alkyl; R4 = (un)substituted aryl, aromatic heterocyclic, acyl, oxycarbonyl, cyano] or (2) mixts. of ≥1 compds. selected from I, radical polymerization initiators, and (R5Te)2 (R5 = same as R1). Thus, 3.5 mmol 2-methyl-2-propenoic acid hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl ester, 1.5 mmol 2-methyl-2-propenoic acid 3-hydroxytricyclo[3.3.1.1<sup>3,7</sup>]dec-1-yl ester, and 5 mmol 2-methyl-2-propenoic acid 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester were polymerized in the presence of Et 2-methyl-2-(butyltelluro)propanoate (0.2 mmol), dibutylditelluride (0.10 mmol), and MAIB (0.10 mmol) to give a copolymer (yield 85%) showing Mw 10000, Mw/Mn 1.24, good solubility to propylene glycol monomethyl ether acetate, and decreased Mw fluctuation.

IC ICM C08F004-00

ICS C08F020-10; G03F007-033; G03F007-039; C07C395-00

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 74

ST acid dissocg group acrylic polymer manuf; dibutylditelluride polymn initiator adamantyl methacrylate polymer; narrow mol wt distribution acrylate polymer; methylbutyltelluropropanoate adamantyl methacrylate living polymn lithog

IT Lithography

(acid-dissociating group-containing acrylic polymers with narrow mol. weight distribution)

IT Polymerization catalysts

(living; acid-dissociating group-containing acrylic polymers with narrow mol. weight distribution)

IT 340964-38-7P

RL: IMF (Industrial manufacture); PREP (Preparation)

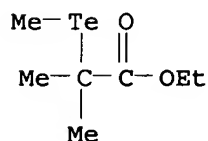
(acid-dissociating group-containing acrylic polymers with narrow mol. weight distribution)

IT 109-72-8, Butyl lithium, reactions 600-00-0, Ethyl 2-bromoisobutyrate

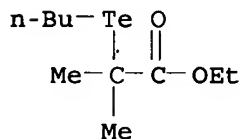
RL: RCT (Reactant); RACT (Reactant or reagent)

(acid-dissociating group-containing acrylic polymers with narrow mol. weight distribution)

distribution)  
 IT 20334-43-4P, Dimethylditelluride 77129-69-2P, Dibutylditelluride  
 474094-06-9P 658058-35-6P  
 RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP  
 (Preparation); USES (Uses)  
 (living polymerization initiator; acid-dissociating group-containing acrylic  
 polymers with narrow mol. weight distribution)  
 IT 78-67-1, AIBN 2589-57-3, MAIB  
 RL: CAT (Catalyst use); USES (Uses)  
 (radical polymerization initiator; acid-dissociating group-containing acrylic  
 polymers  
 with narrow mol. weight distribution)  
 IT 474094-06-9P 658058-35-6P  
 RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP  
 (Preparation); USES (Uses)  
 (living polymerization initiator; acid-dissociating group-containing acrylic  
 polymers with narrow mol. weight distribution)  
 RN 474094-06-9 HCAPLUS  
 CN Propanoic acid, 2-methyl-2-(methyltelluro)-, ethyl ester (9CI) (CA INDEX  
 NAME)



RN 658058-35-6 HCAPLUS  
 CN Propanoic acid, 2-(butyltelluro)-2-methyl-, ethyl ester (9CI) (CA INDEX  
 NAME)



L36 ANSWER 3 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2004:986149 HCAPLUS  
 DN 141:411404  
 TI Manufacture of organotellurium compounds as living radical polymerization  
 initiators  
 IN Yamako, Shigeru; Yoshida, Junichi; Kameshima, Takashi  
 PA Otsuka Chemical Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 10 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004323437	A2	20041118	JP 2003-121825	20030425
PRAI	JP 2003-121825		20030425		

OS MARPAT 141:411404

AB The compds. are manufactured by treatment of azo polymerization initiators with

R1TeR2 (R1, R2 = C1-8 alkyl, aryl, heterocyclic group). Thus, AIBN was treated with MeTeTeMe to 17% give 2-methyl-2-methyltellanylpropionitrile.

IC ICM C07C395-00

ICS C08F004-00

CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 23, 25

ST organotellurium living radical polymn initiator manuf; azo polymn initiator ditelluride substitution; AIBN dimethylditelluride substitution; methyl methyltellanyl propionitrile polymn initiator manuf

IT Tellurides

RL: RCT (Reactant); RACT (Reactant or reagent)

(ditellurides, dialkyl; manufacture of organotellurium compds. as living radical polymerization initiators by treatment of azo polymerization initiators with ditellurides)

IT Polymerization catalysts

(living, radical; manufacture of organotellurium compds. as living radical polymerization initiators by treatment of azo polymerization initiators with ditellurides)

IT 109-72-8, Butyllithium, reactions 591-51-5, Phenyllithium 917-54-4

RL: RCT (Reactant); RACT (Reactant or reagent)

(ditelluride manufactured from; manufacture of organotellurium compds. as living radical polymerization initiators by treatment of azo polymerization initiators with ditellurides)

IT 582319-76-4P 791104-08-0P 791104-09-1P

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP

(Preparation); USES (Uses)

(manufacture of organotellurium compds. as living radical polymerization initiators by treatment of azo polymerization initiators with ditellurides)

IT 20334-43-4P, Dimethyl ditelluride 32294-60-3P, Diphenyl ditelluride

77129-69-2P, Dibutyl ditelluride

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(manufacture of organotellurium compds. as living radical polymerization initiators by treatment of azo polymerization initiators with ditellurides)

IT 78-67-1, AIBN

RL: RCT (Reactant); RACT (Reactant or reagent)

(manufacture of organotellurium compds. as living radical polymerization initiators by treatment of azo polymerization initiators with ditellurides)

IT 582319-76-4P 791104-08-0P 791104-09-1P

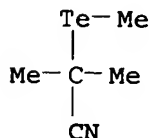
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP

(Preparation); USES (Uses)

(manufacture of organotellurium compds. as living radical polymerization initiators by treatment of azo polymerization initiators with ditellurides)

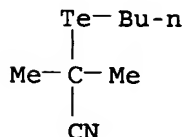
RN 582319-76-4 HCAPLUS

CN Propanenitrile, 2-methyl-2-(methyltelluro)- (9CI) (CA INDEX NAME)



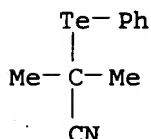
RN 791104-08-0 HCAPLUS

CN Propanenitrile, 2-(butyltelluro)-2-methyl- (9CI) (CA INDEX NAME)



RN 791104-09-1 HCAPLUS

CN Propanenitrile, 2-methyl-2-(phenyltelluro)- (9CI) (CA INDEX NAME)



L36 ANSWER 4 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:965297 HCAPLUS

DN 141:411400

TI Process for production of living-radical polymers and polymers

IN Yamago, Shigeru; Yoshida, Junichi; Kameshima, Takashi

PA Otsuka Chemical Co., Ltd., Japan

SO PCT Int. Appl., 51 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004096870	A1	20041111	WO 2004-JP5989	20040426
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRAI JP 2003-121223 A 20030425

OS MARPAT 141:411400

AB The polymers are prepared by polymerizing vinyl monomers by using an azo initiator, an organotellurium compound R<sub>1</sub>TeCR<sub>2</sub>R<sub>3</sub>R<sub>4</sub> and a ditelluride compound (R<sub>1</sub>Te)<sub>2</sub> [R<sub>1</sub> = C1-8 alkyl, (un)substituted aryl, aromatic heterocyclic group; R<sub>2</sub>, R<sub>3</sub> = H, C1-8 alkyl; R<sub>4</sub> = (un)substituted aryl, aromatic heterocyclic group, acyl, oxycarbonyl, cyano]. Thus, 10 mmol Me methacrylate was polymerized in the presence of AIBN 0.10, dimethylditelluride 0.10, and 2-methyl-2-methyltellurylpropionitrile 0.10 mmol at 60° for 2 h to give 98% PMMA with Mn 9600 and Mw/Mn 1.15.

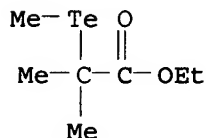
IC ICM C08F004-00

CC 35-3 (Chemistry of Synthetic High Polymers)

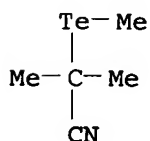
Section cross-reference(s): 29, 67

ST methyl methacrylate living radical polymn catalyst; ditelluride living radical polymn catalyst; organotellurium compd living radical polymn catalyst

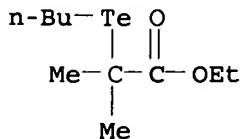
- IT Polymerization catalysts  
(living, radical; organotellurium catalysts for preparation of living-radical polymers)
- IT 2094-98-6, 1,1'-Azobis(1-cyclohexanecarbonitrile)  
RL: CAT (Catalyst use); USES (Uses)  
(ACHN; organotellurium catalysts for preparation of living-radical polymers)
- IT 78-67-1, AIBN 2589-57-3, MAIB 2638-94-0, ACVA 10288-28-5, V 30  
13472-08-7, AMBN 15545-97-8, V 70  
RL: CAT (Catalyst use); USES (Uses)  
(organotellurium catalysts for preparation of living-radical polymers)
- IT 20334-43-4P, Dimethylditelluride 77129-69-2P, Dibutylditelluride  
474094-06-9P 582319-76-4P 658058-35-6P  
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP  
(Preparation); USES (Uses)  
(organotellurium catalysts for preparation of living-radical polymers)
- IT 9003-49-0P, Butyl acrylate homopolymer 9003-53-6P, Polystyrene  
9003-63-8P, Butyl methacrylate homopolymer 9011-14-7P, PMMA  
24991-47-7P, p-Chlorostyrene homopolymer 25034-86-0P, Methyl  
methacrylate-styrene copolymer 25038-87-3P, Methyl vinyl ketone  
homopolymer 25067-61-2P, Methacrylonitrile homopolymer 25249-16-5P,  
2-Hydroxyethyl methacrylate homopolymer 25768-50-7P, Cyclohexyl  
methacrylate homopolymer 26355-01-1P, 2-Hydroxyethyl methacrylate-methyl  
methacrylate copolymer 26813-25-2P, Methacrylonitrile-methyl  
methacrylate copolymer 31074-25-6P, Methyl methacrylate-methyl vinyl  
ketone copolymer 64114-51-8P, Isobornyl methacrylate homopolymer  
66004-95-3P, N-Isopropylmethacrylamide homopolymer 89558-60-1P,  
N-Isopropylacrylamide-N-isopropylmethacrylamide copolymer  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(organotellurium catalysts for preparation of living-radical polymers)
- IT 78-82-0, Isobutyronitrile 109-72-8, Butyllithium, reactions 600-00-0,  
Ethyl 2-bromoisobutyrate 13494-80-9, Tellurium,  
reactions 41658-69-9, 2-Bromo-2-methylpropionitrile  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(organotellurium catalysts for preparation of living-radical polymers)
- IT 474094-06-9P 582319-76-4P 658058-35-6P  
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP  
(Preparation); USES (Uses)  
(organotellurium catalysts for preparation of living-radical polymers)
- RN 474094-06-9 HCAPLUS
- CN Propanoic acid, 2-methyl-2-(methyltelluro)-, ethyl ester (9CI) (CA INDEX NAME)



- RN 582319-76-4 HCAPLUS
- CN Propanenitrile, 2-methyl-2-(methyltelluro)- (9CI) (CA INDEX NAME)



RN 658058-35-6 HCAPLUS  
 CN Propanoic acid, 2-(butyltelluro)-2-methyl-, ethyl ester (9CI) (CA INDEX NAME)



IT 13494-80-9, Tellurium, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (organotellurium catalysts for preparation of living-radical polymers)  
 RN 13494-80-9 HCAPLUS  
 CN Tellurium (8CI, 9CI) (CA INDEX NAME)

Te

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 5 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2004:696397 HCAPLUS  
 DN 141:207655  
 TI Process for the production of living radical polymers and polymers  
 IN Yamago, Shigeru; Yoshida, Junichi; Kameshima, Takashi  
 PA Otsuka Chemical Co., Ltd., Japan  
 SO PCT Int. Appl., 38 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

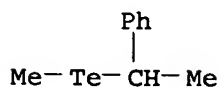
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004072126	A1	20040826	WO 2004-JP1707	20040217
	W: AE, AE, AG, AL, AL, AM, AM, AM, AT, AT, AU, AZ, AZ, BA, BB, BG, BG, BR, BR, BW, BY, BY, BZ, BZ, CA, CH, CN, CN, CO, CO, CR, CR, CU, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EC, EE, EE, EG, ES, ES, FI, FI, GB, GD, GE, GE, GH, GM, HR, HR, HU, HU, ID, IL, IN, IS, JP, JP, KE, KE, KG, KG, KP, KP, KR, KR, KZ, KZ, LC, LK, LR, LS, LS, LT, LU, LV, MA, MD, MD, MG, MK, MN, MW, MX, MX, MZ, MZ, NA, NI RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRAI	JP 2003-38590	A	20030217		
	JP 2003-331544	A	20030924		

OS MARPAT 141:207655

AB The present invention relates to (i) a process for the production of living radical polymers, characterized by polymerizing a vinyl monomer by the use of an organo tellurium compound CR2R3R4TeR1 and an azo polymerization initiator and (ii) living radical polymers produced by the process, wherein R1 = C1-8 alkyl, aryl, substituted aryl, or an aromatic heterocyclic

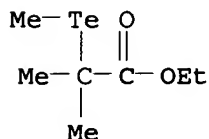
group; R2, R3 = H or C1-8 alkyl; and R4 = aryl, substituted aryl, an aromatic heterocyclic group, acyl, oxycarbonyl, or cyano. Thus, 6.38 g tellurium and 55 mmol methyllithium were stirred, 70 mmol 2-bromo-2-methyl-propionitrile was added therein and stirred to give 4.10 g 2-methyl-2-methyltelluranyl-propionitrile, 0.10 mmol of which was mixed with 0.10 mmol 2,2'-azo-bis-isobutyronitrile and 10 mmol styrene and stirred at 60° for 11 h to give a polymer with yield 94%, Mn 11,300, and polydispersity 1.13.

IC ICM C08F004-00  
CC 35-3 (Chemistry of Synthetic High Polymers)  
ST process living radical polymer; tellurium  
bromomethylpropionitrile methyllithium reactant polymn initiator prepn;  
methylmethyltelluranylpropionitrile initiator styrene polymn  
IT Azo compounds  
RL: CAT (Catalyst use); USES (Uses)  
(initiators; preparation of living radical polymers)  
IT Polymerization  
Polymerization catalysts  
(living, radical; preparation of living radical polymers)  
IT 78-67-1, AIBN 2638-94-0, ACVA 10288-28-5, V 30 15545-97-8, V 70  
RL: CAT (Catalyst use); USES (Uses)  
(initiator; preparation of living radical polymers)  
IT 415679-75-3P 474094-06-9P 582319-76-4P  
658058-35-6P  
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP  
(Preparation); USES (Uses)  
(initiator; preparation of living radical polymers)  
IT 9003-01-4P, Polyacrylic acid 9003-05-8P, Polyacrylamide 9003-31-0P,  
Polyisoprene 9003-39-8P, 1-Vinyl-2-pyrrolidone homopolymer 9003-49-0P,  
Polybutyl acrylate 9003-53-6P, Polystyrene 9011-14-7P, Methyl  
methacrylate homopolymer 25014-15-7P, 2-Vinylpyridine homopolymer  
25014-41-9P, Acrylonitrile homopolymer 25189-55-3P, N-  
Isopropylacrylamide homopolymer 25232-41-1P, 4-Vinylpyridine homopolymer  
26793-34-0P, Dimethylacrylamide homopolymer 95418-60-3P,  
p-tert-Butoxystyrene homopolymer  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(preparation of living radical polymers)  
IT 109-72-8P, n-Butyllithium, preparation  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(reactant in initiator preparation; preparation of living radical polymers)  
IT 41658-69-9P, 2-Bromo-2-methyl-propionitrile  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
(Reactant or reagent)  
(reactant in initiator preparation; preparation of living radical polymers)  
IT 78-82-0, Isobutyronitrile 585-71-7, 1-Bromoethylbenzene 600-00-0,  
Ethyl 2-bromoisobutyrate 917-54-4, Methyllithium 7789-60-8,  
Tribromophosphine 13494-80-9, Tellurium, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reactant in initiator preparation; preparation of living radical polymers)  
IT 415679-75-3P 474094-06-9P 582319-76-4P  
658058-35-6P  
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP  
(Preparation); USES (Uses)  
(initiator; preparation of living radical polymers)  
RN 415679-75-3 HCAPLUS  
CN Benzene, [1-(methyltelluro)ethyl]- (9CI) (CA INDEX NAME)



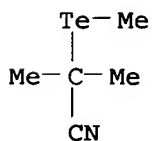
RN 474094-06-9 HCAPLUS

CN Propanoic acid, 2-methyl-2-(methyltelluro)-, ethyl ester (9CI) (CA INDEX NAME)



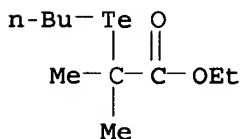
RN 582319-76-4 HCAPLUS

CN Propanenitrile, 2-methyl-2-(methyltelluro)- (9CI) (CA INDEX NAME)



RN 658058-35-6 HCAPLUS

CN Propanoic acid, 2-(butyltelluro)-2-methyl-, ethyl ester (9CI) (CA INDEX NAME)



IT 13494-80-9, Tellurium, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(reactant in initiator preparation; preparation of living radical polymers)

RN 13494-80-9 HCAPLUS

CN Tellurium (8CI, 9CI) (CA INDEX NAME)

Te

L36 ANSWER 6 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:651368 HCAPLUS

DN 141:175321

TI Vulcanization accelerators of rubbers for good scorch property and antiaging ability

IN Akiba, Mitsuo; Takada, Toshikazu

PA Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.



CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004224804	A2	20040812	JP 2002-366738	20021218
PRAI	JP 2002-346379	A	20021128		
OS	MARPAT 141:175321				

AB Title accelerators are diacyl ditellurides as XCOTe.TeCOY (X, Y = R1C6H4, R2OC6H4, R3 with R1-R3 = C1-3 alkyl). A composition containing RSS 1 100, S 2.25, and bis(2-methoxybenzoyl) ditelluride (I; prepared from XeF2 and Na 2-methoxybenzenecarbotelluroate) 1.4 parts showed scorch time ( $\Delta T$ ) 218.8 min and was press-vulcanized at 150° for 15 min to form a product having tensile strength deviation -5% and elongation deviation  $\pm 0\%$  after 1 wk at 70°; vs., -49 and -32, resp., for a product prepared from a similar rubber composition showing  $\Delta T$  of 3.0 min and containing Accel NS instead of the I.

IC ICM C08L021-00

ICS C08K005-39

CC 39-10 (Synthetic Elastomers and Natural Rubber)

ST diacyl ditelluride vulcanization accelerator diene rubber antiaging ability; scorch property diene rubber diacyl ditelluride vulcanization accelerator

IT Nitrile rubber, uses

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(JSR N 232S; diacyl ditelluride vulcanization accelerator-containing diene rubber compns. with good scorch property and aging resistance)

IT Natural rubber, uses

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(RSS 1; diacyl ditelluride vulcanization accelerator-containing diene rubber compns. with good scorch property and aging resistance)

IT Styrene-butadiene rubber, uses

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(SBR 1500; diacyl ditelluride vulcanization accelerator-containing diene rubber compns. with good scorch property and aging resistance)

IT Heat-resistant materials

Vulcanization accelerators and agents

(diacyl ditelluride vulcanization accelerator-containing diene rubber compns. with good scorch property and aging resistance)

IT Tellurides

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(ditellurides, diacyl; diacyl ditelluride vulcanization accelerator-containing diene rubber compns. with good scorch property and aging resistance)

IT Isoprene rubber, uses

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

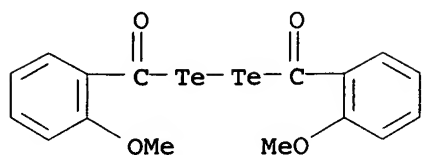
(of cis-1,4-configuration, IR 2200; diacyl ditelluride vulcanization accelerator-containing diene rubber compns. with good scorch property and aging resistance)

IT Butadiene rubber, uses

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(of cis-1,4-configuration, JSR-BR 01; diacyl ditelluride vulcanization accelerator-containing diene rubber compns. with good scorch property and

aging resistance)  
IT 9003-17-2D, of cis-1,4-configuration  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(butadiene rubber, JSR-BR 01; diacyl ditelluride vulcanization accelerator-containing diene rubber compns. with good scorch property and aging resistance)  
IT 111289-49-7P, Bis(2-methoxybenzoyl) ditelluride  
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)  
(diacyl ditelluride vulcanization accelerator-containing diene rubber compns. with good scorch property and aging resistance)  
IT 123707-24-4P, Sodium 2-methoxybenzenecarbotelluroate  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(for preparation of diacyl ditelluride; diacyl ditelluride vulcanization accelerator-containing diene rubber compns. with good scorch property and aging resistance)  
IT 12034-41-2, Disodium telluride 21615-34-9, 2-Methoxybenzoyl chloride  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(for preparation of diacyl ditelluride; diacyl ditelluride vulcanization accelerator-containing diene rubber compns. with good scorch property and aging resistance)  
IT 13709-36-9, Xenon difluoride  
RL: RGT (Reagent); RACT (Reactant or reagent)  
(for preparation of diacyl ditelluride; diacyl ditelluride vulcanization accelerator-containing diene rubber compns. with good scorch property and aging resistance)  
IT 9003-31-0D, of cis-1,4-configuration  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(isoprene rubber, IR 2200; diacyl ditelluride vulcanization accelerator-containing diene rubber compns. with good scorch property and aging resistance)  
IT 9003-18-3  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(nitrile rubber, JSR N 232S; diacyl ditelluride vulcanization accelerator-containing diene rubber compns. with good scorch property and aging resistance)  
IT 9003-55-8  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(styrene-butadiene rubber, SBR 1500; diacyl ditelluride vulcanization accelerator-containing diene rubber compns. with good scorch property and aging resistance)  
IT 111289-49-7P, Bis(2-methoxybenzoyl) ditelluride  
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)  
(diacyl ditelluride vulcanization accelerator-containing diene rubber compns. with good scorch property and aging resistance)  
RN 111289-49-7 HCAPLUS  
CN Ditelluride, bis(2-methoxybenzoyl) (9CI) (CA INDEX NAME)



L36 ANSWER 7 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:606518 HCAPLUS

DN 141:158625

TI Hybrid antifouling coating compositions and methods for preventing the fouling of surfaces subjected to a marine environment

IN Detty, Michael R.; Drake, Michael D.; Tang, Ying; Bright, Frank V.

PA The Research Foundation of State University of New York, USA

SO PCT Int. Appl., 137 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004063292	A2	20040729	WO 2004-US348	20040107
	WO 2004063292	A3	20050224		
	W: AE, AE, AG, AL, AL, AM, AM, AM, AT, AT, AU, AU, AZ, AZ, BA, BB, BG, BG, BR, BR, BW, BY, BZ, BZ, CA, CH, CN, CN, CO, CO, CR, CR, CU, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EC, EE, EE, EG, ES, ES, FI, FI, GB, GD, GE, GE, GH, GH, GH, GM, HR, HR, HU, HU, ID, IL, IN, IS, JP, JP, KE, KE, KG, KG, KP, KP, KP, KR, KR, KZ, KZ, LC, LK, LR, LS, LS, LT, LU, LV, MA, MD, MD, MG, MK, MN, MW, MX, MX, MZ				
	US 2005013843	A1	20050120	US 2004-753926	20040107
PRAI	US 2003-438558P	P	20030107		
OS	MARPAT 141:158625				

AB The present invention relates to a coating composition including a sol-gel matrix and a dendrimeric organochalcogeno derivative and a system including the coating composition and a substrate. The present invention also relates to a method of preventing fouling of surfaces subjected to a marine environment. Thus, 0.592 g 3,5-bis(3-hydroxypropyloxy)benzyl benzoate (preparation given) and 0.38 mL methanesulfonyl chloride were reacted at 0° in the presence of lithium bromide to give 0.69 g 3,5-bis(3-bromopropoxy)benzyl benzoate, 0.43 g of which was added in a solution obtained from 0.10 g sodium bromide and 0.539 g di-Ph ditelluride, refluxed for 20 h to give 0.54 g 3,5-bis[3-(phenyltelluro)propyloxy]benzyl alc., the resulting dendritic derivative was incorporated in a propyltrimethoxysilane-tetramethylorthosililane sol-gel, and cast into a film with water contact angle 92° and good antifouling property.

IC ICM C09D

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 25

ST hybrid antifouling coating compn marine environment;  
propyltrimethoxysilane tetramethylorthosililane copolymer  
bisphenyltelluropropyloxybenzyl alc coating compn

IT Coating materials

(antifouling, marine; hybrid antifouling coating compns. containing dendritic derivs. as oxidation catalysts)

IT Coating materials

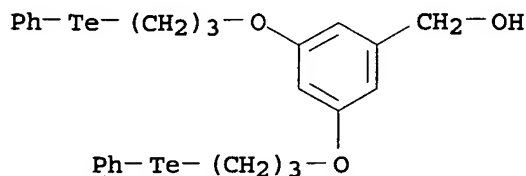
(antifouling; hybrid antifouling coating compns. containing dendritic derivs. as oxidation catalysts)

- IT Polyethers, uses  
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation);  
USES (Uses)  
(dendrimers; hybrid antifouling coating compns. containing dendritic  
derivs. as oxidation catalysts)
- IT Coating process  
(dip; hybrid antifouling coating compns. containing dendritic derivs. as  
oxidation catalysts)
- IT Glass substrates  
Oxidation catalysts  
Sol-gel processing  
Spore  
Xerogels  
(hybrid antifouling coating compns. containing dendritic derivs. as oxidation  
catalysts)
- IT Dendritic polymers  
Enzymes, uses  
RL: CAT (Catalyst use); USES (Uses)  
(hybrid antifouling coating compns. containing dendritic derivs. as oxidation  
catalysts)
- IT Silicates, uses  
RL: POF (Polymer in formulation); TEM (Technical or engineered material  
use); USES (Uses)  
(hybrid antifouling coating compns. containing dendritic derivs. as oxidation  
catalysts)
- IT Dendritic polymers  
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation);  
USES (Uses)  
(polyethers; hybrid antifouling coating compns. containing dendritic  
derivs. as oxidation catalysts)
- IT Silsesquioxanes  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
(Properties); TEM (Technical or engineered material use); PREP  
(Preparation); USES (Uses)  
(silicate-, fluorine-containing; hybrid antifouling coating compns. containing  
dendritic derivs. as oxidation catalysts)
- IT Silsesquioxanes  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
(Properties); TEM (Technical or engineered material use); PREP  
(Preparation); USES (Uses)  
(silicate-; hybrid antifouling coating compns. containing dendritic derivs.  
as oxidation catalysts)
- IT Fluoropolymers, uses  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
(Properties); TEM (Technical or engineered material use); PREP  
(Preparation); USES (Uses)  
(silicate-silsesquioxane-; hybrid antifouling coating compns. containing  
dendritic derivs. as oxidation catalysts)
- IT Silicates, uses  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
(Properties); TEM (Technical or engineered material use); PREP  
(Preparation); USES (Uses)  
(silsesquioxane-; hybrid antifouling coating compns. containing dendritic  
derivs. as oxidation catalysts)
- IT Coating process  
(spray; hybrid antifouling coating compns. containing dendritic derivs. as  
oxidation catalysts)
- IT Wood  
(substrates; hybrid antifouling coating compns. containing dendritic  
derivs. as oxidation catalysts)

- IT Metals, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(substrates; hybrid antifouling coating compns. containing dendritic  
derivs. as oxidation catalysts)
- IT Spore  
(zoospore; hybrid antifouling coating compns. containing dendritic derivs.  
as oxidation catalysts)
- IT 69279-19-2  
RL: CAT (Catalyst use); USES (Uses)  
(hybrid antifouling coating compns. containing dendritic derivs. as oxidation  
catalysts)
- IT 573701-64-1P 573701-65-2P 573701-66-3P  
573701-67-4P 573701-68-5P 573701-69-6P  
573701-70-9P 573701-71-0P 573701-72-1P  
573701-73-2P 573701-74-3P 573701-75-4P  
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP  
(Preparation); USES (Uses)  
(hybrid antifouling coating compns. containing dendritic derivs. as oxidation  
catalysts)
- IT 159728-56-0P 164740-43-6P, Propyltrimethoxysilane-tetramethoxysilane  
copolymer 167637-55-0P 728042-30-6P 728042-31-7P 728042-32-8P  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
(Properties); TEM (Technical or engineered material use); PREP  
(Preparation); USES (Uses)  
(hybrid antifouling coating compns. containing dendritic derivs. as oxidation  
catalysts)
- IT 11099-06-2, Tetraethoxysilane homopolymer 12002-26-5, Tetramethoxysilane  
homopolymer  
RL: POF (Polymer in formulation); TEM (Technical or engineered material  
use); USES (Uses)  
(hybrid antifouling coating compns. containing dendritic derivs. as oxidation  
catalysts)
- IT 124-63-0, Methanesulfonyl chloride  
RL: RGT (Reagent); RACT (Reactant or reagent)  
(hybrid antifouling coating compns. containing dendritic derivs. as oxidation  
catalysts)
- IT 573701-53-8P 573701-54-9P 573701-55-0P 573701-56-1P 573701-57-2P  
573701-58-3P 573701-59-4P 573701-60-7P 573701-61-8P 573701-62-9P  
573701-63-0P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
(Reactant or reagent)  
(intermediate in dendritic derivative preparation; hybrid antifouling coating  
compns. containing dendritic derivs. as oxidation catalysts)
- IT 93-97-0, Benzoic anhydride 99-24-1, Methyl gallate 586-77-6,  
4-Bromo-N,N-dimethylaniline 588-63-6, 1-Bromo-3-phenoxypropane  
13494-80-9, Tellurium, reactions 32294-60-3, Diphenyl  
ditelluride 59130-74-4, Bis(4-dimethylaminophenyltelluride)  
79971-83-8, Dihexyl ditelluride 89031-84-5, 1-Bromo-3-(tert-  
butyldimethylsilyloxy)propane 247122-94-7 247123-01-9 324077-06-7  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reactant in dendritic derivative preparation; hybrid antifouling coating  
compns. containing dendritic derivs. as oxidation catalysts)
- IT 573701-64-1P 573701-65-2P 573701-66-3P  
573701-67-4P 573701-68-5P 573701-69-6P  
573701-70-9P 573701-71-0P 573701-72-1P  
573701-73-2P 573701-74-3P 573701-75-4P  
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP  
(Preparation); USES (Uses)  
(hybrid antifouling coating compns. containing dendritic derivs. as oxidation  
catalysts)

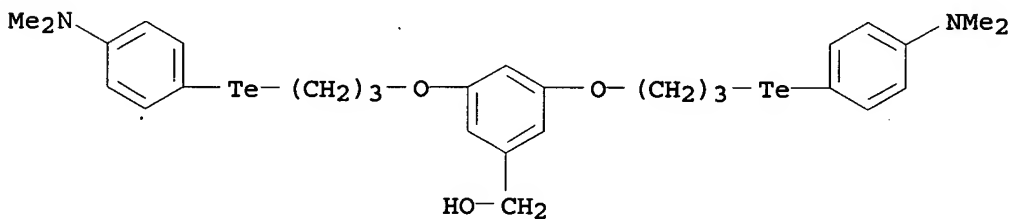
RN 573701-64-1 HCAPLUS

CN Benzenemethanol, 3,5-bis[3-(phenyltelluro)propoxy] - (9CI) (CA INDEX NAME)



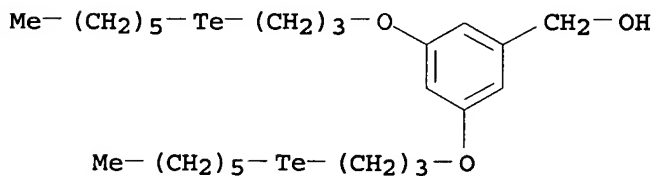
RN 573701-65-2 HCAPLUS

CN Benzenemethanol, 3,5-bis[3-[[4-(dimethylamino)phenyl]telluro]propoxy] - (9CI) (CA INDEX NAME)



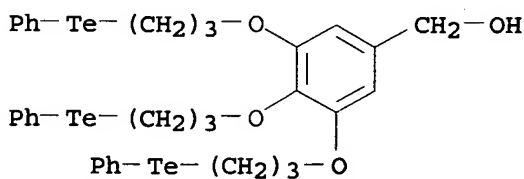
RN 573701-66-3 HCAPLUS

CN Benzenemethanol, 3,5-bis[3-(hexyltelluro)propoxy] - (9CI) (CA INDEX NAME)



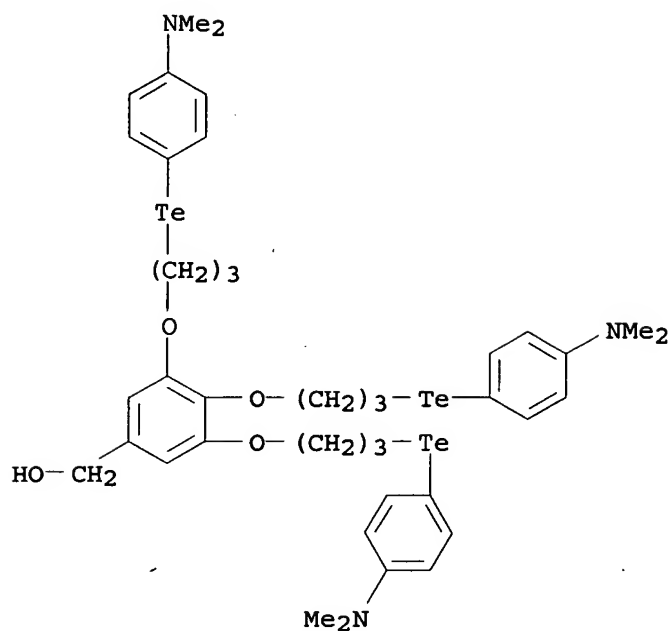
RN 573701-67-4 HCAPLUS

CN Benzenemethanol, 3,4,5-tris[3-(phenyltelluro)propoxy] - (9CI) (CA INDEX NAME)



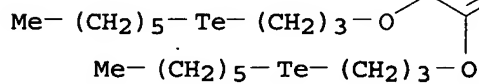
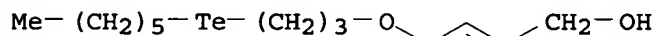
RN 573701-68-5 HCAPLUS

CN Benzenemethanol, 3,4,5-tris[3-[[4-(dimethylamino)phenyl]telluro]propoxy] - (9CI) (CA INDEX NAME)



RN 573701-69-6 HCAPLUS

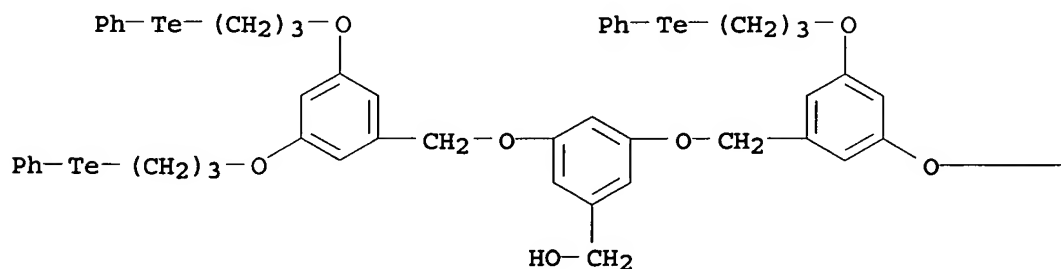
CN Benzenemethanol, 3,4,5-tris[3-(hexyltelluro)propoxy] - (9CI) (CA INDEX NAME)



RN 573701-70-9 HCAPLUS

CN Benzenemethanol, 3,5-bis[[3,5-bis[3-(phenyltelluro)propoxy]phenyl]methoxy] - (9CI) (CA INDEX NAME)

PAGE 1-A



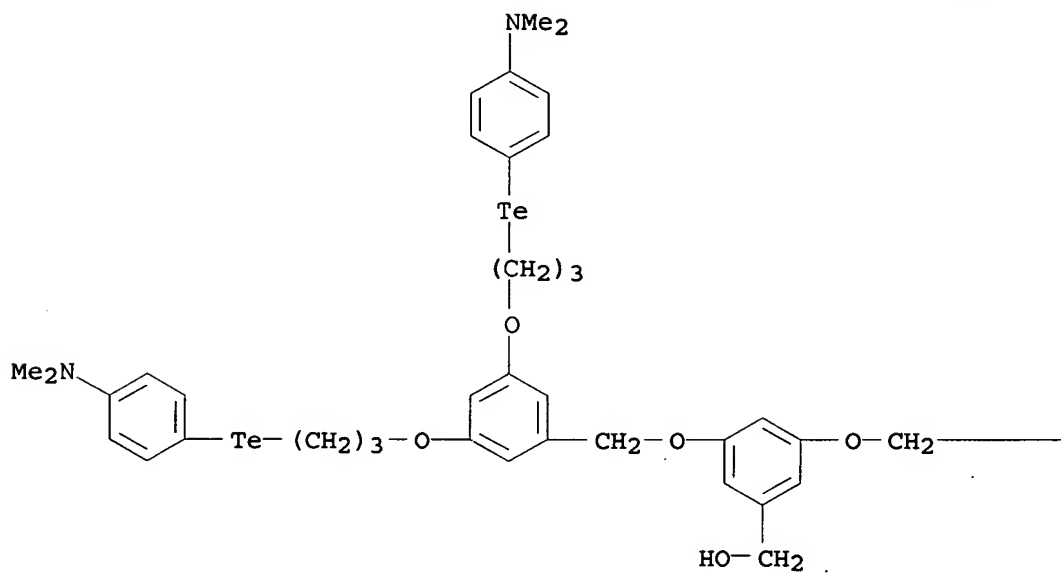
PAGE 1-B

 $-(CH_2)_3-Te-Ph$ 

RN 573701-71-0 HCAPLUS

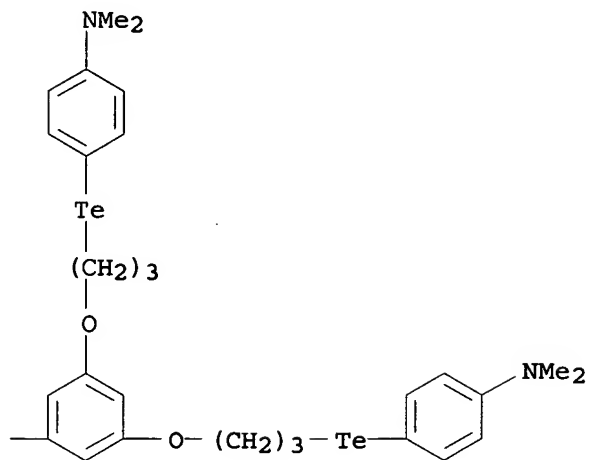
CN Benzenemethanol, 3,5-bis[[3,5-bis[3-[[4-(dimethylamino)phenyl]telluro]propoxy]phenyl]methoxy]- (9CI) (CA INDEX NAME)

PAGE 1-A



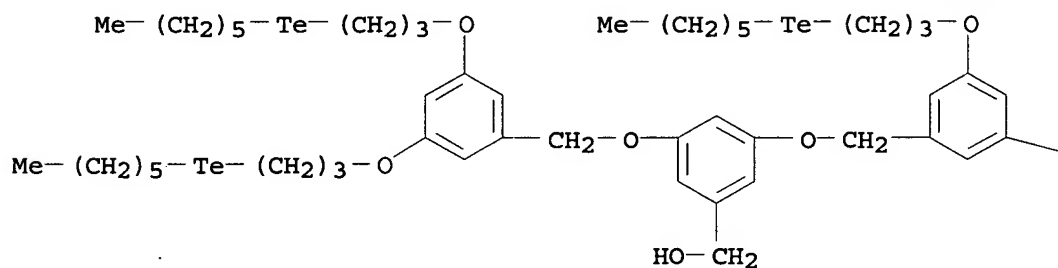


PAGE 1-B

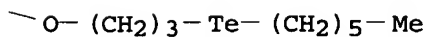


RN 573701-72-1 HCAPLUS  
 CN Benzenemethanol, 3,5-bis[[3,5-bis[3-(hexyltelluro)propoxy]phenyl]methoxy] -  
 (9CI) (CA INDEX NAME)

PAGE 1-A

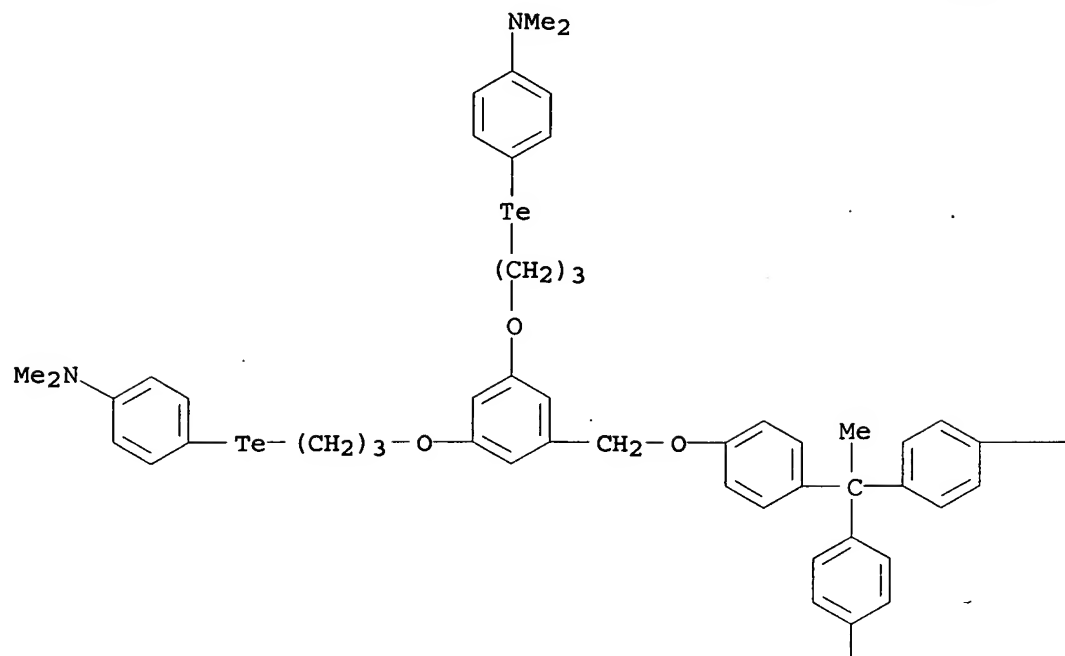


PAGE 1-B

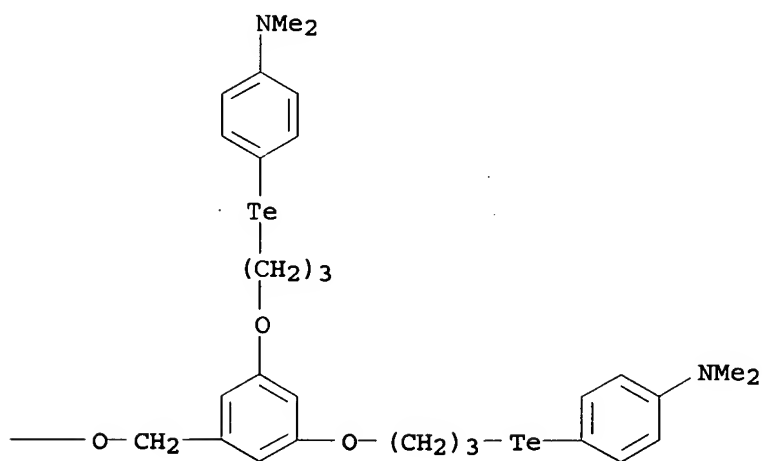


RN 573701-73-2 HCAPLUS  
 CN Benzenamine, 4,4',4'',4''',4''''',4''''''-[ethylidynetris[4,1-  
 phenyleneoxymethylene-5,1,3-benzenetriylbis(oxy-3,1-  
 propanediyltelluro)]]hexakis[N,N-dimethyl- (9CI) (CA INDEX NAME)

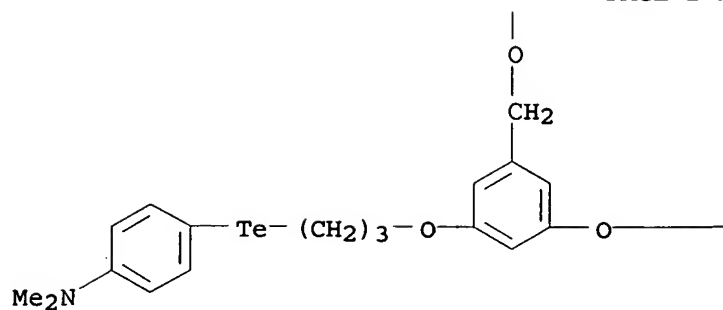
PAGE 1-A



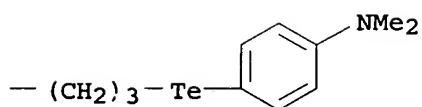
PAGE 1-B



PAGE 2-A

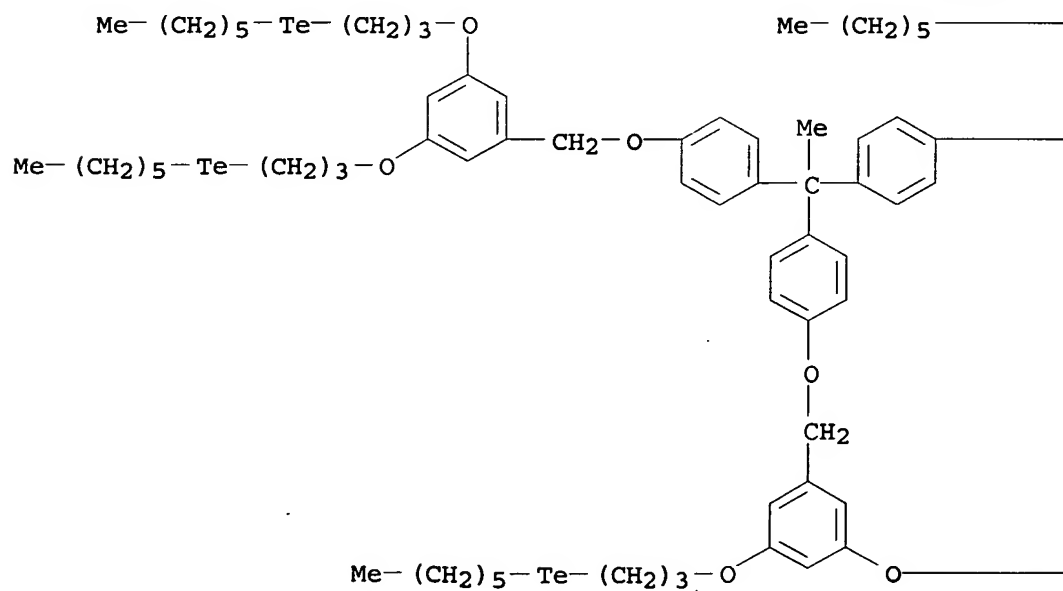


PAGE 2-B

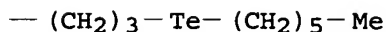
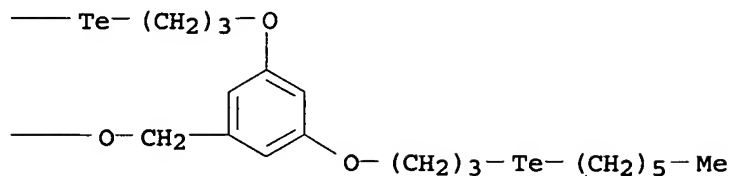


RN 573701-74-3 HCAPLUS  
 CN Benzene, 1,1',1''-ethylidynetris[4-[[3,5-bis[3-(hexyltelluro)propoxy]phenyl]methoxy]-(9CI) (CA INDEX NAME)

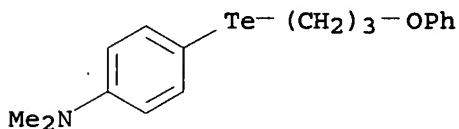
PAGE 1-A



PAGE 1-B



RN 573701-75-4 HCAPLUS  
 CN Benzenamine, N,N-dimethyl-4-[(3-phenoxypropyl)telluro]- (9CI) (CA INDEX NAME)



IT 13494-80-9, Tellurium, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reactant in dendritic derivative preparation; hybrid antifouling coating  
 compns. containing dendritic derivs. as oxidation catalysts)  
 RN 13494-80-9 HCAPLUS  
 CN Tellurium (8CI, 9CI) (CA INDEX NAME)

Te

L36 ANSWER 8 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2004:363769 HCAPLUS  
 DN 141:123397  
 TI Synthesis and Characterization of Pentaerythritol-Derived Oligoglycol and  
 Their Application to Catalytic Wittig-Type Reactions  
 AU Li, Kai; Ran, Li; Yu, Yi-Hua; Tang, Yong  
 CS State Key Laboratory of Organometallic Chemistry, Shanghai Institute of  
 Organic Chemistry, Shanghai, 200032, Peop. Rep. China  
 SO Journal of Organic Chemistry (2004), 69(11), 3986-3989  
 CODEN: JOCEAH; ISSN: 0022-3263  
 PB American Chemical Society

DT Journal  
LA English  
OS CASREACT 141:123397  
AB Several pentaerythritol-derived oligoglycols with free hydroxyl groups are readily prepared by a convergent approach. Quant.  $^{13}\text{C}$  NMR proves to be an efficient tool for the characterization of oligoglycols. The telluride of  $\text{C}[(\text{OCH}_2\text{CH}_2)_2\text{OTHP}]$  is synthesized and used as a good catalyst for Wittig-type reactions in preparing both disubstituted and trisubstituted olefins in good to high yields.

CC 23-9 (Aliphatic Compounds)  
ST pentaerythritol oligoglycol telluride prepn Wittig catalyst  
IT Wittig reaction  
Wittig reaction catalysts  
(preparation of pentaerythritol-derived oligoglycols and their use as catalysts in Wittig-type reactions)

IT Glycols, preparation  
Ligands  
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(preparation of pentaerythritol-derived oligoglycols and their use as catalysts in Wittig-type reactions)

IT 370839-58-0  
RL: CAT (Catalyst use); USES (Uses)  
(preparation of pentaerythritol-derived oligoglycols and their use as catalysts in Wittig-type reactions)

IT 723294-35-7P 723294-36-8P 723294-37-9P  
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(preparation of pentaerythritol-derived oligoglycols and their use as catalysts in Wittig-type reactions)

IT 89-98-5, 2-Chlorobenzaldehyde 98-01-1, Furfural, reactions 100-52-7, Benzaldehyde, reactions 104-87-0, 4-Methylbenzaldehyde 104-88-1, 4-Chlorobenzaldehyde, reactions 105-13-5, 4-Methoxybenzyl alcohol 107-21-1, Ethylene glycol, reactions 110-87-2, 2H-3,4-Dihydropyran 112-31-2, Decanal 115-77-5, Pentaerythritol, reactions 135-02-4, 2-Methoxybenzaldehyde 535-11-5, Ethyl 2-bromopropanoate 555-16-8, 4-Nitrobenzaldehyde, reactions 2043-61-0, Cyclohexanecarboxaldehyde 2162-31-4, Ethylene glycol mono(tetrahydropyranyl ether) 2163-11-3 3229-00-3, 1,3-Dibromo-2,2-bis(bromomethyl)propane 5292-43-3, tert.-Butyl bromoacetate 14371-10-9, (E)-Cinnamaldehyde 38788-38-4, Dibutyl telluride  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of pentaerythritol-derived oligoglycols and their use as catalysts in Wittig-type reactions)

IT 1522-92-5P, 3-Bromo-2,2-bis(bromomethyl)-1-propanol 2746-25-0P, 4-Methoxybenzyl bromide 172354-97-1P 172355-15-6P 249619-36-1P 723294-28-8P 723294-29-9P 723294-30-2P 723294-31-3P 723294-32-4P 723294-34-6P 723294-39-1P 723294-40-4P 723295-23-6P 723295-24-7P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation of pentaerythritol-derived oligoglycols and their use as catalysts in Wittig-type reactions)

IT 7042-33-3P 7042-36-6P 14329-06-7P 65480-44-6P 72284-20-9P 120823-67-8P 125950-99-4P 125951-00-0P 164660-12-2P 370839-60-4P 474097-69-3P 723294-33-5P 723294-38-0P 723294-41-5P 723294-43-7P 792917-37-4P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of pentaerythritol-derived oligoglycols and their use as catalysts in Wittig-type reactions)

IT 723294-35-7P 723294-36-8P 723294-37-9P

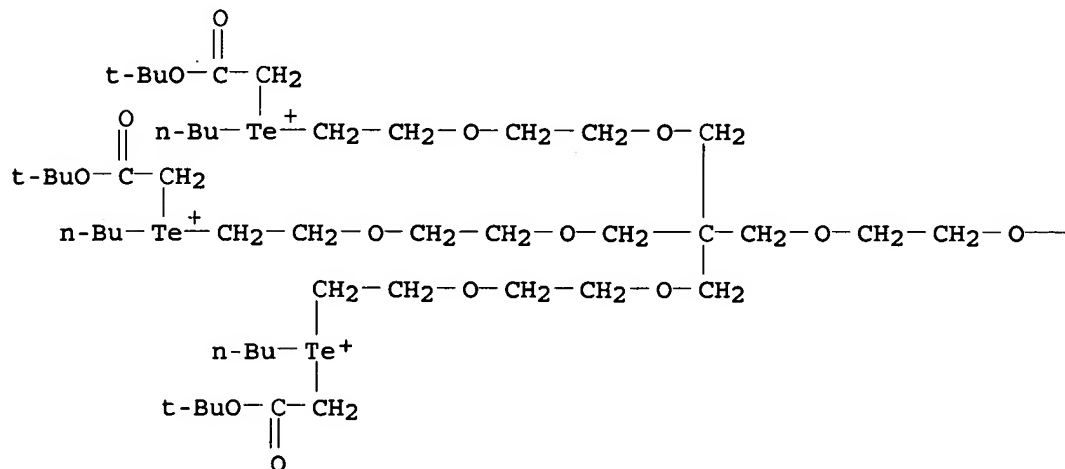
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(preparation of pentaerythritol-derived oligoglycols and their use as catalysts in Wittig-type reactions)

RN 723294-35-7 HCAPLUS

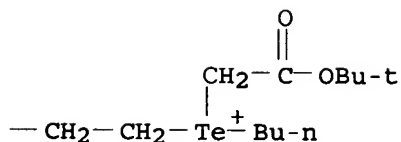
CN 3,9,12,16,19,25-Hexaoxa-6,22-ditelluroniaheptacosane, 6,22-dibutyl-14,14-bis(8-butyl-12,12-dimethyl-10-oxo-2,5,11-trioxa-8-telluroniatridec-1-yl)-2,2,26,26-tetramethyl-4,24-dioxo-, tetrabromide (9CI) (CA INDEX NAME)

PAGE 1-A



● 4 Br<sup>-</sup>

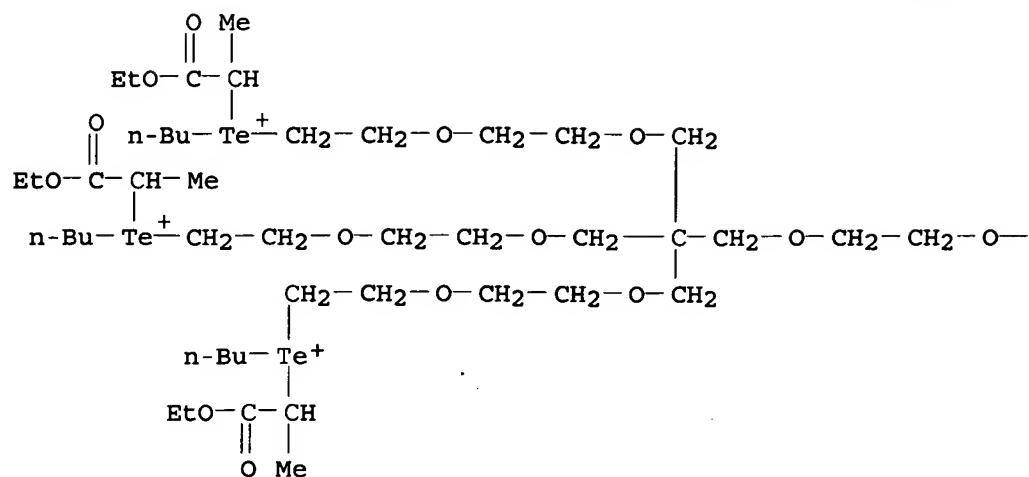
PAGE 1-B



RN 723294-36-8 HCAPLUS

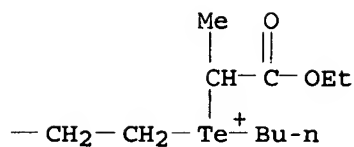
CN 3,9,12,16,19,25-Hexaoxa-6,22-ditelluroniaheptacosane, 6,22-dibutyl-14,14-bis(8-butyl-9-methyl-10-oxo-2,5,11-trioxa-8-telluroniatridec-1-yl)-5,23-dimethyl-4,24-dioxo-, tetrabromide (9CI) (CA INDEX NAME)

PAGE 1-A



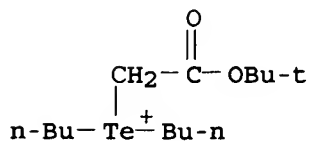
● 4 Br<sup>-</sup>

PAGE 1-B



RN 723294-37-9 HCAPLUS

CN Telluronium, dibutyl[2-(1,1-dimethylethoxy)-2-oxoethyl]-, bromide (9CI)  
(CA INDEX NAME)



● Br<sup>-</sup>

RE.CNT 54 THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 9 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:143194 HCAPLUS

DN 140:181982

TI Process for production of living radical polymers and block polymers

IN Yamago, Shigeru; Yoshida, Junichi

PA Otsuka Chemical Co., Ltd., Japan

SO PCT Int. Appl., 51 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

*applicant*

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004014962	A1	20040219	WO 2003-JP10116	20030808
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	CA 2494983	AA	20040219	CA 2003-2494983	20030808
	EP 1541592	A1	20050615	EP 2003-784600	20030808
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
PRAI	JP 2002-231917	A	20020808		
	WO 2003-JP10116	W	20030808		

OS MARPAT 140:181982

AB Vinyl monomers (e.g., MMA, styrene) are polymerized by using living radical polymerization initiators R1TeCR2R3R4 and (R1Te)2 [R1 = C1-8 alkyl, (un)substituted aryl, aromatic heterocyclic group; R2, R3 = H, C1-8 alkyl; R4 = (un)substituted aryl, aromatic heterocyclic group, acyl, oxycarbonyl, cyano]. The initiators enable precise control of mol. weight and mol.-weight distribution under mild conditions. Thus, poly(Me methacrylate) (Mn 9000, Mw/Mn 1.18) was prepared by using (1-methyltelluranylethyl)benzene and di-Me ditelluride as initiators.

IC ICM C08F004-00

ICS C08F297-00

CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 29, 67

ST tellurium compd living polymn catalyst methyl methacrylate;

styrene living polymn catalyst tellurium compd

IT Polymerization catalysts

(living, radical; organotellurium compds. as living radical polymerization catalysts for preparation of polymers and block polymers)

IT 20334-43-4P, Dimethyl ditelluride 32294-60-3P, Diphenyl ditelluride

77129-69-2P, Dibutyl ditelluride 415679-75-3P

474094-06-9P 658058-30-1P 658058-31-2P

658058-32-3P 658058-33-4P 658058-34-5P

658058-35-6P

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP

(Preparation); USES (Uses)

(organotellurium compds. as living radical polymerization catalysts for preparation of polymers and block polymers)

IT 9003-42-3P, Ethyl methacrylate homopolymer 9003-53-6P, Styrene

homopolymer 9011-14-7P, PMMA 24991-47-7P, Poly(p-chlorostyrene)

25034-86-0P, Methyl methacrylate-styrene copolymer 25038-87-3P,



Poly(methyl vinyl ketone) 25067-61-2P, Polymethacrylonitrile  
 25249-16-5P, 2-Hydroxyethyl methacrylate homopolymer 28554-25-8P,  
 Poly(N-methylmethacrylamide) 106911-77-7P, Methyl methacrylate-styrene  
 block copolymer 131589-87-2P, tert-Butyl acrylate-methyl methacrylate  
 block copolymer 137317-43-2P, tert-Butyl acrylate-methyl  
 methacrylate-styrene block copolymer

RL: IMF (Industrial manufacture); PREP (Preparation)

(organotellurium compds. as living radical polymerization catalysts for preparation  
 of polymers and block polymers)

IT 109-72-8, Butyllithium, reactions 585-71-7, 1-Bromoethylbenzene  
 600-00-0, Ethyl 2-bromoisobutyrate 652-28-8 14804-61-6,  
 1-(1-Bromoethyl)-4-chlorobenzene 55214-85-2 68120-42-3 160376-84-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(organotellurium compds. as living radical polymerization catalysts for preparation  
 of polymers and block polymers)

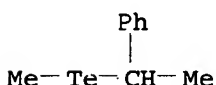
IT 415679-75-3P 474094-06-9P 658058-30-1P  
 658058-31-2P 658058-32-3P 658058-33-4P  
 658058-34-5P 658058-35-6P

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP  
 (Preparation); USES (Uses)

(organotellurium compds. as living radical polymerization catalysts for preparation  
 of polymers and block polymers)

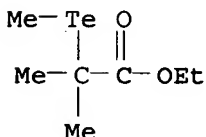
RN 415679-75-3 HCAPLUS

CN Benzene, [1-(methyltelluro)ethyl]- (9CI) (CA INDEX NAME)



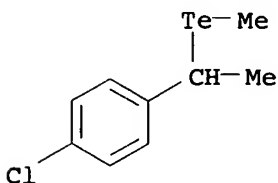
RN 474094-06-9 HCAPLUS

CN Propanoic acid, 2-methyl-2-(methyltelluro)-, ethyl ester (9CI) (CA INDEX  
 NAME)



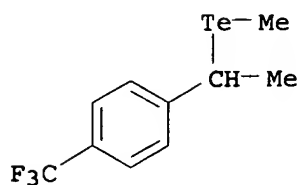
RN 658058-30-1 HCAPLUS

CN Benzene, 1-chloro-4-[1-(methyltelluro)ethyl]- (9CI) (CA INDEX NAME)

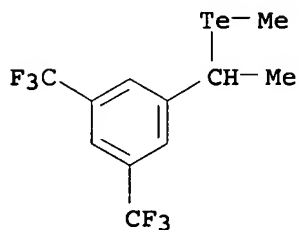


RN 658058-31-2 HCAPLUS

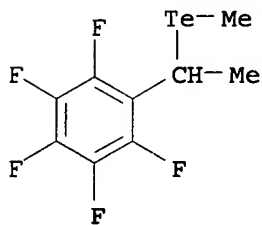
CN Benzene, 1-[1-(methyltelluro)ethyl]-4-(trifluoromethyl)- (9CI) (CA INDEX  
 NAME)



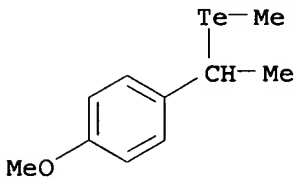
RN 658058-32-3 HCAPLUS  
CN Benzene, 1-[1-(methylyltelluro)ethyl]-3,5-bis(trifluoromethyl)- (9CI) (CA INDEX NAME)



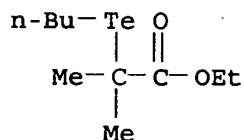
RN 658058-33-4 HCAPLUS  
CN Benzene, pentafluoro[1-(methylyltelluro)ethyl]- (9CI) (CA INDEX NAME)



RN 658058-34-5 HCAPLUS  
CN Benzene, 1-methoxy-4-[1-(methylyltelluro)ethyl]- (9CI) (CA INDEX NAME)



RN 658058-35-6 HCAPLUS  
CN Propanoic acid, 2-(butyltelluro)-2-methyl-, ethyl ester (9CI) (CA INDEX NAME)



RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 10 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:143097 HCAPLUS

DN 140:181980

TI Organic tellurium compounds, preparation thereof, living radical polymerization initiators, and process for producing polymers

IN Yamago, Shigeru; Yoshida, Junichi

PA Otsuka Kagaku Kabushiki Kaisha, Japan

SO PCT Int. Appl., 42 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004014848	A1	20040219	WO 2002-JP8003	20020806
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	CA 2494816	AA	20040219	CA 2002-2494816	20020806
	EP 1541550	A1	20050615	EP 2002-753239	20020806
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
PRAI	WO 2002-JP8003	W	20020806		

OS MARPAT 140:181980

AB Organotellurium compds. R<sub>1</sub>TeCR<sub>2</sub>R<sub>3</sub>R<sub>4</sub> [R<sub>1</sub> = C1-8 alkyl; R<sub>2</sub>, R<sub>3</sub> = H, C1-8 alkyl; R<sub>4</sub> = (un)substituted aryl, aromatic heterocyclic group, oxycarbonyl, cyano] are prepared and used as living radical polymerization initiators. The initiators enable precise control of mol. weight and mol.-weight distribution under mild conditions. Thus, polystyrene (M<sub>n</sub> 18,400, M<sub>w</sub>/M<sub>n</sub> 1.18) was prepared by using (1-methyltelluranylethyl)benzene as catalyst.

IC ICM C07C395-00

ICS C08F004-00; C08F297-00

CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 29, 67

ST organo tellurium compd living polymn catalyst styrene

IT Polymerization catalysts

(living, radical; organotellurium compds. as living radical polymerization catalysts for preparation of polymers and living polymers)

IT Polymerization

(living; organotellurium compds. as living radical polymerization catalysts for preparation of polymers and living polymers)

IT Polymers, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)  
(living; organotellurium compds. as living radical polymerization catalysts  
for preparation of polymers and living polymers)

IT Conducting polymers  
(polypyrroles; organotellurium compds. as living radical polymerization  
catalysts for preparation of polymers and living polymers)

IT Conducting polymers  
(polythiophenes; organotellurium compds. as living radical polymerization  
catalysts for preparation of polymers and living polymers)

IT 103680-41-7P 121335-32-8P 415679-75-3P  
474094-06-9P 658058-30-1P 659735-45-2P  
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP  
(Preparation); USES (Uses)  
(organotellurium compds. as living radical polymerization catalysts for preparation  
of polymers and living polymers)

IT 124-38-9DP, Carbon dioxide, reaction products with living polystyrene  
6180-99-0DP, Stannane-d, tributyl-, reaction products with living  
polystyrene 9003-21-8P, Methyl acrylate homopolymer 9003-49-0P, Butyl  
acrylate homopolymer 9003-53-6P, Polystyrene 24936-44-5P,  
Poly(p-methoxystyrene) 24991-47-7P, Poly(p-chlorostyrene) 25988-40-3P  
26793-34-0P, N,N-Dimethylacrylamide homopolymer 67000-89-9DP,  
1-Pyrenebutanol, reaction products with carboxy-terminated polystyrene  
108286-71-1DP, reaction products with living polystyrene 120326-29-6P  
127972-36-5P, tert-Butyl acrylate-styrene block copolymer  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(organotellurium compds. as living radical polymerization catalysts for preparation  
of polymers and living polymers)

IT 1918-82-7P, 2-Vinylthiophene 2540-06-9P 14804-61-6P,  
1-(1-Bromoethyl)-4-chlorobenzene  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
(Reactant or reagent)  
(organotellurium compds. as living radical polymerization catalysts for preparation  
of polymers and living polymers)

IT 98-03-3, 2-Thiophenealdehyde 100-44-7, Benzyl chloride, reactions  
600-00-0, Ethyl 2-bromoisobutyrate 1192-58-1 17435-72-2,  
Ethyl-2-bromomethyl acrylate 38131-57-6  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(organotellurium compds. as living radical polymerization catalysts for preparation  
of polymers and living polymers)

IT 3391-10-4P, 1-(4-Chlorophenyl)ethanol  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation of organotellurium compds. as living radical polymerization catalysts)

IT 99-91-2  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of organotellurium compds. as living radical polymerization catalysts)

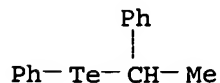
IT 103680-41-7P 121335-32-8P 415679-75-3P  
474094-06-9P 658058-30-1P 659735-45-2P  
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP  
(Preparation); USES (Uses)  
(organotellurium compds. as living radical polymerization catalysts for preparation  
of polymers and living polymers)

RN 103680-41-7 HCAPLUS  
CN Benzene, [(methyltelluro)methyl]- (9CI) (CA INDEX NAME)

Me-Te-CH<sub>2</sub>-Ph

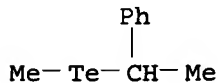
RN 121335-32-8 HCAPLUS

CN Benzene, [(1-phenylethyl)telluro]- (9CI) (CA INDEX NAME)



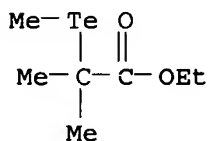
RN 415679-75-3 HCAPLUS

CN Benzene, [1-(methyltelluro)ethyl]- (9CI) (CA INDEX NAME)



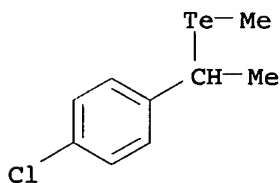
RN 474094-06-9 HCAPLUS

CN Propanoic acid, 2-methyl-2-(methyltelluro)-, ethyl ester (9CI) (CA INDEX NAME)



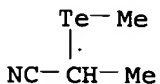
RN 658058-30-1 HCAPLUS

CN Benzene, 1-chloro-4-[1-(methyltelluro)ethyl]- (9CI) (CA INDEX NAME)



RN 659735-45-2 HCAPLUS

CN Propanenitrile, 2-(methyltelluro)- (9CI) (CA INDEX NAME)



RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 11 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:439007 HCAPLUS

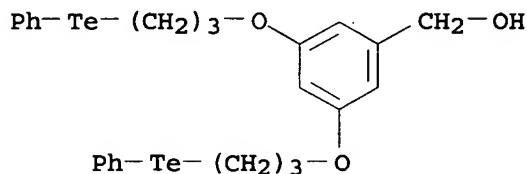
DN 139:149377

TI Dendrimeric Organotelluride Catalysts for the Activation of Hydrogen Peroxide. Improved Catalytic Activity through Statistical and Stereoelectronic Effects

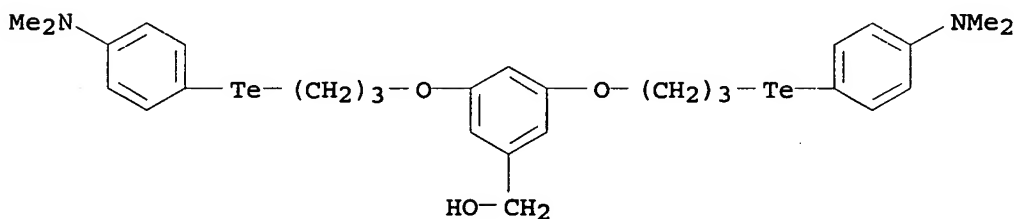
- AU Ahsan, Khalid; Drake, Michael D.; Higgs, Donald E.; Wojciechowski, Amy L.;  
Tse, Brian N.; Bateman, Margaret A.; You, Youngjae; Detty, Michael R.  
CS Department of Chemistry, University at Buffalo, Buffalo, NY, 14260, USA  
SO Organometallics (2003), 22(14), 2883-2890  
CODEN: ORGND7; ISSN: 0276-7333  
PB American Chemical Society  
DT Journal  
LA English  
OS CASREACT 139:149377  
AB Dendrimeric polyorganotellurides are prepared in high yield using propyloxy  
spacers to connect the organotelluride groups to the core mols. The  
polyorganotellurides catalyze the oxidation of thiophenol with hydrogen  
peroxide to give di-Ph disulfide in homogeneous solns. (5% CH<sub>2</sub>Cl<sub>2</sub>/MeOH or  
46% CH<sub>2</sub>Cl<sub>2</sub>/MeOH). The polyorganotellurides with two, three, four, and six  
catalytic groups show roughly statistical increases for the number of  
catalytic groups relative to the corresponding monotellurides. Catalysts  
containing [4-(dimethylamino)phenyl]telluro groups and n-hexyltelluro groups  
are oxidized more rapidly by hydrogen peroxide and also show greater  
catalytic activity than the corresponding catalysts containing phenyltelluro  
groups. A combination of statistical effects and stereoelectronic effects  
give a 26-fold increase in catalytic activity from 1-phenoxy-3-  
(phenyltelluro)propane (23a;  $v_0 = 12 \mu\text{M min}^{-1}$ ) to dendrimer  
1,1,1-tris[4-[3,5-bis[3-(hexyltelluro)propoxy]phenylmethoxy]phenyl]ethane  
(22c) with six hexyltelluro groups ( $v_0 = 312 \mu\text{M min}^{-1}$ ) for the  
oxidation of  $1.0 \times 10^{-3}$  M PhSH with  $3.75 \times 10^{-3}$  M H<sub>2</sub>O<sub>2</sub> in the  
presence of  $1.0 \times 10^{-5}$  M catalyst.
- CC 25-14 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)  
Section cross-reference(s): 35, 67
- ST telluride dendrimer propoxy spacer prepn catalyst thiophenol oxidn;  
hydrogen peroxide oxidn thiophenol telluride catalyst dendrimer prepn;  
statistical stereoelectronic effect catalytic activity telluride dendrimer  
thiophenol oxidn
- IT Stereoelectronic effect  
(on catalytic activity of telluride dendrimers in hydrogen peroxide  
oxidation of thiophenol)
- IT Ethers, preparation  
RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent); USES (Uses)  
(polyorganotellurides; preparation of telluride dendrimers and their  
catalytic activity in hydrogen peroxide oxidation of thiophenol)
- IT Oxidation catalysts  
(preparation of telluride dendrimers and their catalytic activity in  
hydrogen peroxide oxidation of thiophenol)
- IT Dendritic polymers  
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);  
USES (Uses)  
(preparation of telluride dendrimers and their catalytic activity in  
hydrogen peroxide oxidation of thiophenol)
- IT 32294-60-3, Diphenylditelluride 79971-83-8 108743-34-6  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(alkylation; preparation of telluride dendrimers and their catalytic  
activity in hydrogen peroxide oxidation of thiophenol)
- IT 89031-84-5  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(aryloxylation; preparation of telluride dendrimers and their catalytic  
activity in hydrogen peroxide oxidation of thiophenol)
- IT 93-97-0, Benzoic anhydride 247122-94-7  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(benzoylation; preparation of telluride dendrimers and their catalytic  
activity in hydrogen peroxide oxidation of thiophenol)

- IT 573701-54-9P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(benzoylation; preparation of telluride dendrimers and their catalytic activity in hydrogen peroxide oxidation of thiophenol)
- IT 573701-58-3P 573701-59-4P 573701-60-7P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(bromination; preparation of telluride dendrimers and their catalytic activity in hydrogen peroxide oxidation of thiophenol)
- IT 882-33-7, Diphenyl disulfide  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(catalytic oxidation product; preparation of telluride dendrimers and their catalytic activity in hydrogen peroxide oxidation of thiophenol)
- IT 108-98-5, Benzenethiol, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(catalytic oxidation; preparation of telluride dendrimers and their catalytic activity in hydrogen peroxide oxidation of thiophenol)
- IT 573701-55-0P 573701-56-1P 573701-57-2P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(deprotection; preparation of telluride dendrimers and their catalytic activity in hydrogen peroxide oxidation of thiophenol)
- IT 99-24-1, Methyl gallate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(etherification; preparation of telluride dendrimers and their catalytic activity in hydrogen peroxide oxidation of thiophenol)
- IT 324077-09-0  
RL: CAT (Catalyst use); USES (Uses)  
(hydrogen peroxide activation; preparation of telluride dendrimers and their catalytic activity in hydrogen peroxide oxidation of thiophenol)
- IT 573701-64-1P 573701-65-2P 573701-66-3P  
573701-67-4P 573701-68-5P 573701-69-6P  
573701-70-9P 573701-71-0P 573701-72-1P  
573701-73-2P 573701-74-3P  
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(hydrogen peroxide activation; preparation of telluride dendrimers and their catalytic activity in hydrogen peroxide oxidation of thiophenol)
- IT 158734-99-7 324077-07-8  
RL: CAT (Catalyst use); CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)  
(oxidation kinetics, hydrogen peroxide activation; preparation of telluride dendrimers and their catalytic activity in hydrogen peroxide oxidation of thiophenol)
- IT 573701-75-4P  
RL: CAT (Catalyst use); CPS (Chemical process); PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses)  
(oxidation kinetics, hydrogen peroxide activation; preparation of telluride dendrimers and their catalytic activity in hydrogen peroxide oxidation of thiophenol)
- IT 247123-01-9 324077-06-7  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of telluride dendrimers and their catalytic activity in hydrogen peroxide oxidation of thiophenol)
- IT 573701-53-8P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(reduction; preparation of telluride dendrimers and their catalytic activity in

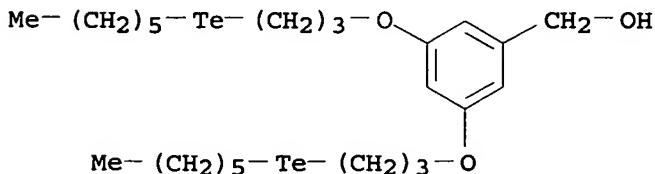
- hydrogen peroxide oxidation of thiophenol)
- IT 586-77-6, 4-Bromo-N,N-dimethylaniline 588-63-6, 1-Bromo-3-phenoxypropane  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (telluration; preparation of telluride dendrimers and their catalytic activity in hydrogen peroxide oxidation of thiophenol)
- IT 573701-61-8P 573701-62-9P 573701-63-0P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (telluration; preparation of telluride dendrimers and their catalytic activity in hydrogen peroxide oxidation of thiophenol)
- IT 573701-64-1P 573701-65-2P 573701-66-3P  
 573701-67-4P 573701-68-5P 573701-69-6P  
 573701-70-9P 573701-71-0P 573701-72-1P  
 573701-73-2P 573701-74-3P  
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (hydrogen peroxide activation; preparation of telluride dendrimers and their catalytic activity in hydrogen peroxide oxidation of thiophenol)
- RN 573701-64-1 HCAPLUS  
 CN Benzenemethanol, 3,5-bis[3-(phenyltelluro)propoxy]- (9CI) (CA INDEX NAME)



- RN 573701-65-2 HCAPLUS  
 CN Benzenemethanol, 3,5-bis[3-[[4-(dimethylamino)phenyl]telluro]propoxy]- (9CI) (CA INDEX NAME)

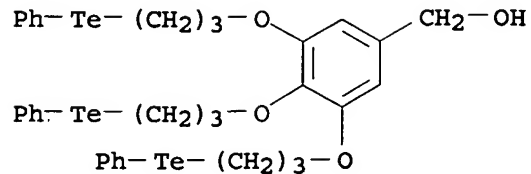


- RN 573701-66-3 HCAPLUS  
 CN Benzenemethanol, 3,5-bis[3-(hexyltelluro)propoxy]- (9CI) (CA INDEX NAME)



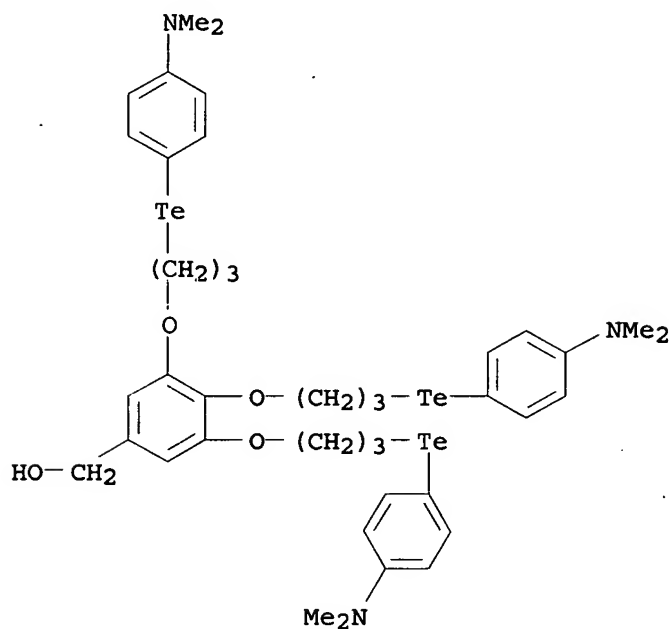
- RN 573701-67-4 HCAPLUS  
 CN Benzenemethanol, 3,4,5-tris[3-(phenyltelluro)propoxy]- (9CI) (CA INDEX NAME)





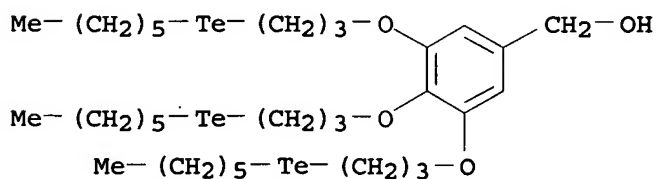
RN 573701-68-5 HCAPLUS

CN Benzenemethanol, 3,4,5-tris[3-[[4-(dimethylamino)phenyl]telluro]propoxy] - (9CI) (CA INDEX NAME)



RN 573701-69-6 HCAPLUS

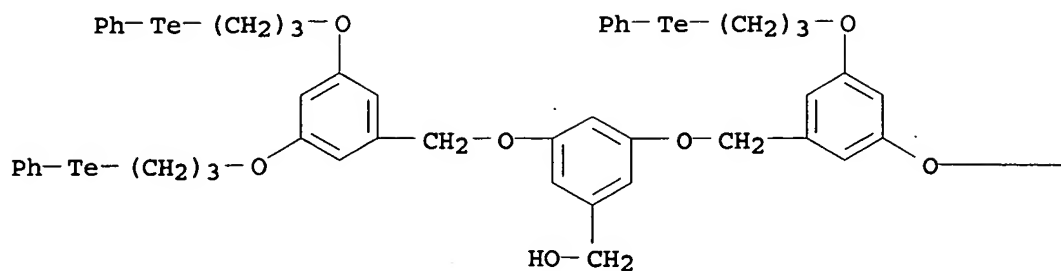
CN Benzenemethanol, 3,4,5-tris[3-(hexyltelluro)propoxy] - (9CI) (CA INDEX NAME)



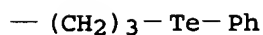
RN 573701-70-9 HCAPLUS

CN Benzenemethanol, 3,5-bis[[3,5-bis[3-(phenyltelluro)propoxy]phenyl]methoxy] - (9CI) (CA INDEX NAME)

PAGE 1-A

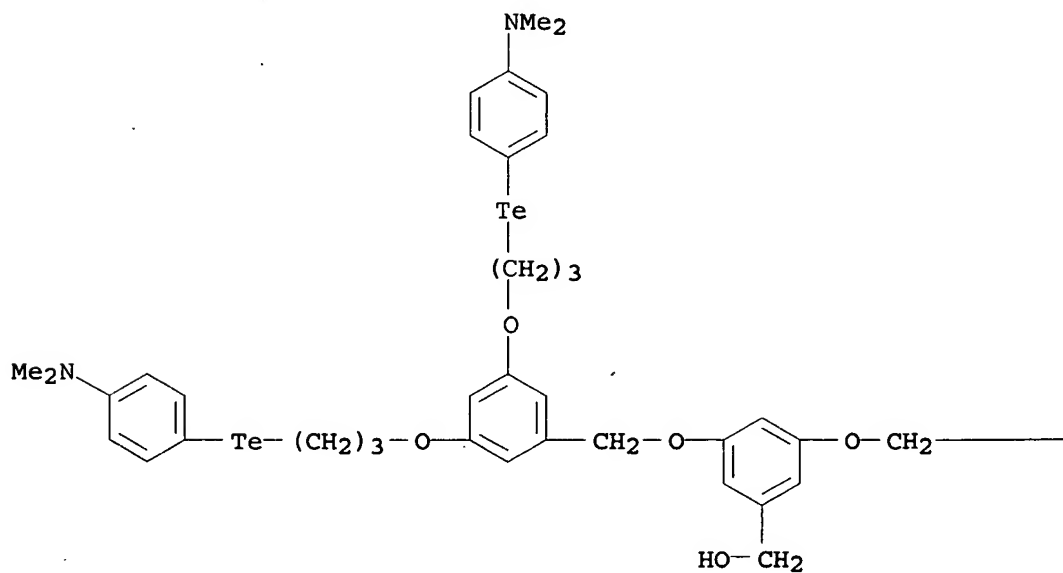


PAGE 1-B

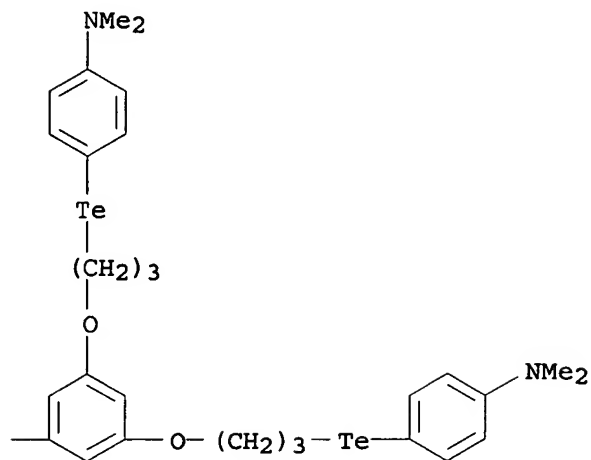


RN 573701-71-0 HCAPLUS  
 CN Benzenemethanol, 3,5-bis[[3,5-bis[3-[[4-(dimethylamino)phenyl]telluro]propoxy]phenyl]methoxy] - (9CI) (CA INDEX NAME)

PAGE 1-A

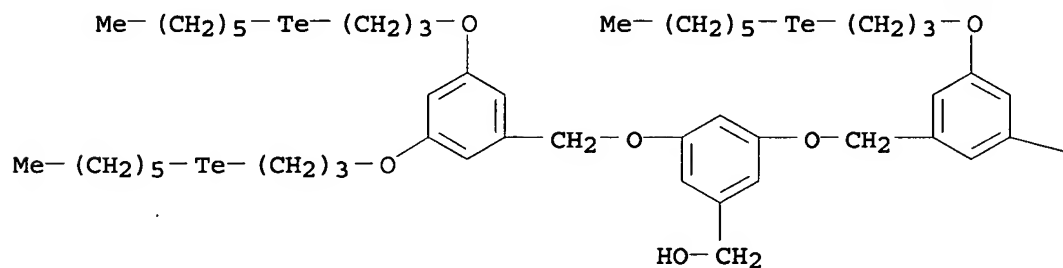


PAGE 1-B

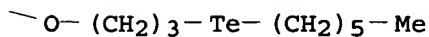


RN 573701-72-1 HCAPLUS  
 CN Benzenemethanol, 3,5-bis[[3,5-bis[3-(hexyltelluro)propoxy]phenyl]methoxy]-(9CI) (CA INDEX NAME)

PAGE 1-A

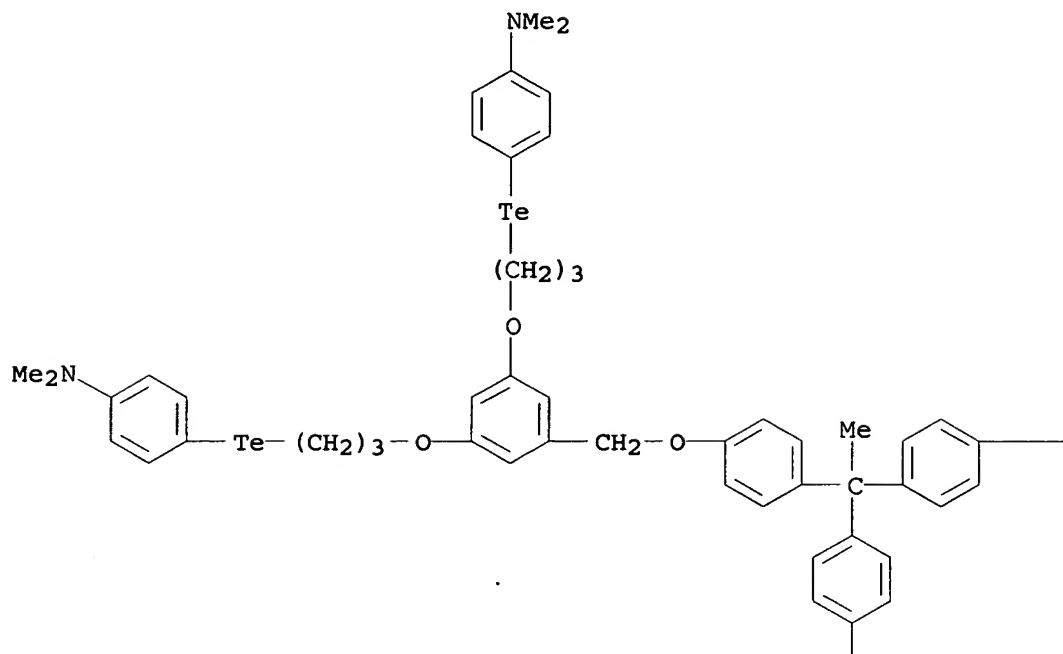


PAGE 1-B

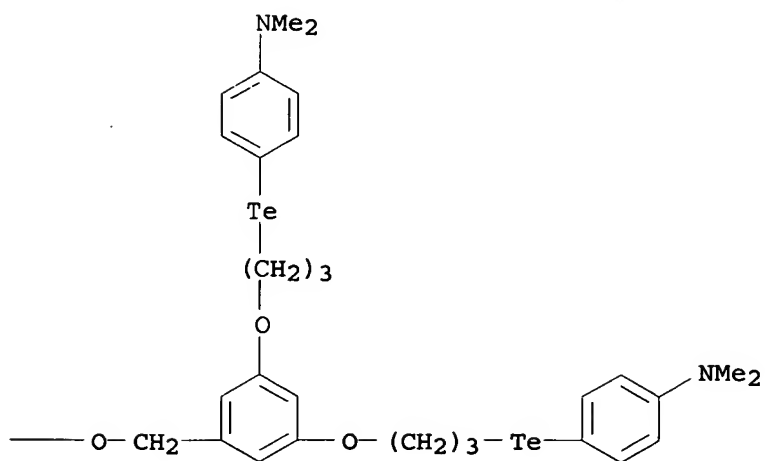


RN 573701-73-2 HCAPLUS  
 CN Benzenamine, 4,4',4'',4''',4''',4''''-[ethylidynetris[4,1-phenyleneoxymethylene-5,1,3-benzenetriylbis(oxy-3,1-propanediyltelluro)]]hexakis[N,N-dimethyl-(9CI) (CA INDEX NAME)

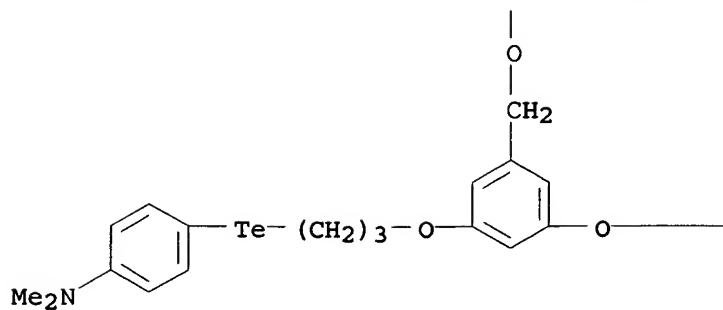
PAGE 1-A



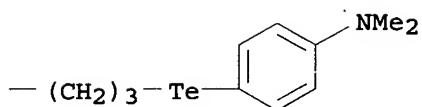
PAGE 1-B



PAGE 2-A

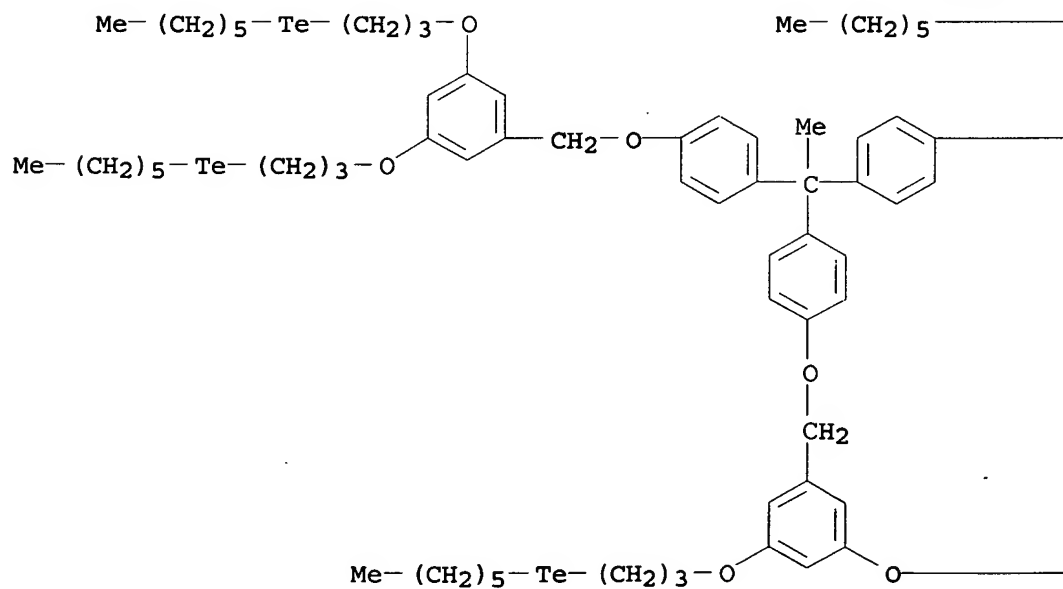


PAGE 2-B

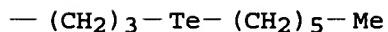
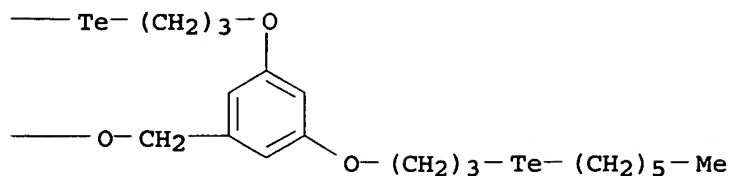


RN 573701-74-3 HCAPLUS  
 CN Benzene, 1,1',1''-ethylidynetris[4-[[3,5-bis[3-(hexyltelluro)propoxy]phenyl]methoxy] - (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



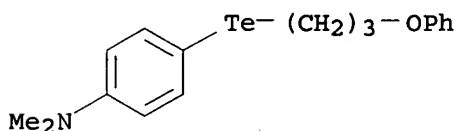
IT 573701-75-4P

RL: CAT (Catalyst use); CPS (Chemical process); PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses)

(oxidation kinetics, hydrogen peroxide activation; preparation of telluride dendrimers and their catalytic activity in hydrogen peroxide oxidation of thiophenol)

RN 573701-75-4 HCAPLUS

CN Benzenamine, N,N-dimethyl-4-[(3-phenoxypropyl)telluro]- (9CI) (CA INDEX NAME)



RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 12 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:381157 HCAPLUS

DN 138:353702

TI Dendrimeric catalysts for the activation of hydrogen peroxide: improved catalytic activity through statistical effects and cooperativity

AU Detty, Michael R.; Francavilla, Charles; Drake, Michael D.; Bright, Frank V.; Higgs, Donald

CS Dep. of Chem., Univ. at Buffalo, Buffalo, NY, 14260-3000, USA

SO Polymeric Materials Science and Engineering (2001), 84, 160-165

CODEN: PMSEDG; ISSN: 0743-0515

PB American Chemical Society

DT Journal

LA English

OS CASREACT 138:353702  
AB A series of dendrimeric catalysts based on 3-phenoxypropyl phenylchalcogenides has been synthesized to investigate catalytic activity for hydrogen peroxide in bromination of cyclohexene. In the telluride series, the constant catalytic activity for each individual phenyltelluro group suggests that there is little cooperativity between the phenyltelluro groups, but the catalytic activity of each individual phenylseleno groups increases with each generation, which suggests the interaction between adjacent phenylseleno groups.

CC 25-14 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)  
Section cross-reference(s): 35, 67

ST dendrimeric catalyst hydrogen peroxide catalytic activity statistical effect cooperativity; phenoxypropyl phenylchalcogenide dendrimer catalyst cyclohexene bromination

IT Polyethers, preparation  
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(dendritic; preparation of dendrimeric catalysts for the activation of hydrogen peroxide for bromination of cyclohexene)

IT Catalysts  
Reaction kinetics  
(preparation of dendrimeric catalysts for the activation of hydrogen peroxide for bromination of cyclohexene)

IT Dendritic polymers  
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(preparation of dendrimeric catalysts for the activation of hydrogen peroxide for bromination of cyclohexene)

IT 59950-10-6P 324077-10-3P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(comparative model compound; preparation of dendrimeric catalysts for the activation of hydrogen peroxide)

IT 324077-06-7P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(first dendron; preparation of dendrimeric catalysts for the activation of hydrogen peroxide)

IT 324077-08-9P 324077-09-0P  
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(first generation; preparation of dendrimeric catalysts for the activation of hydrogen peroxide)

IT 7722-84-1, Hydrogen peroxide, reactions  
RL: RGT (Reagent); RACT (Reactant or reagent)  
(oxidizing agent; preparation of dendrimeric catalysts for the activation of hydrogen peroxide)

IT 247122-90-3P 324077-07-8P  
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(preparation of dendrimeric catalysts for the activation of hydrogen peroxide)

IT 110-83-8, Cyclohexene, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of dendrimeric catalysts for the activation of hydrogen peroxide)

IT 2425-33-4P 7429-37-0P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of dendrimeric catalysts for the activation of hydrogen peroxide)

IT 588-63-6, 1-Bromo-3-phenoxypropane 930-69-8, Sodium phenylsulfide

23974-72-3, Sodium phenylselenide 41422-67-7, Sodium phenyltelluride  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reactant; preparation of dendrimeric catalysts for the activation of  
 hydrogen peroxide)

IT 247123-06-4P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (second generation dendron; preparation of dendrimeric catalysts for the  
 activation of hydrogen peroxide)

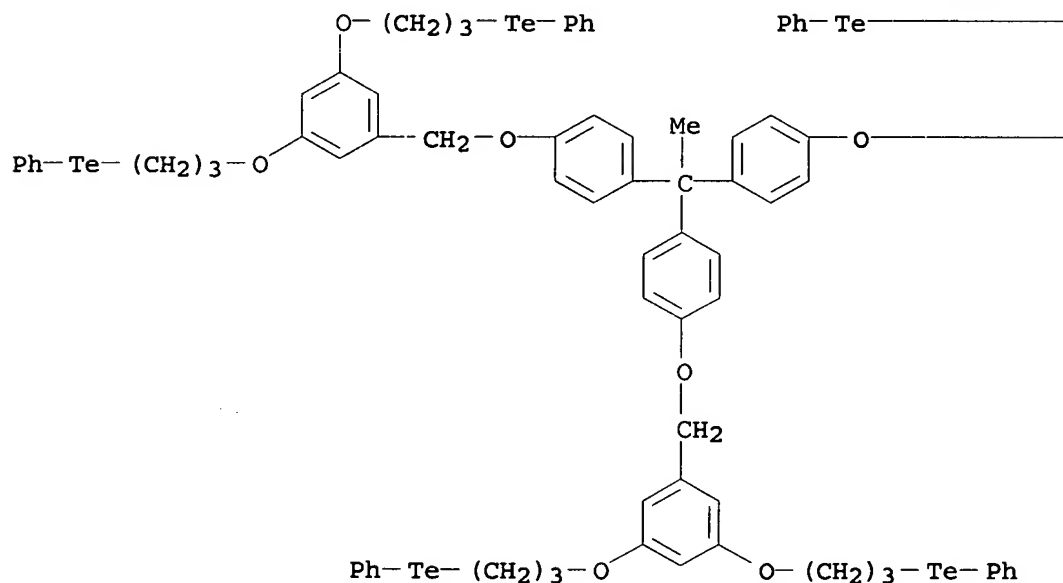
IT 247123-07-5P 324077-11-4P  
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP  
 (Preparation); USES (Uses)  
 (second generation; preparation of dendrimeric catalysts for the activation  
 of hydrogen peroxide)

IT 324077-09-0P  
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP  
 (Preparation); USES (Uses)  
 (first generation; preparation of dendrimeric catalysts for the activation  
 of hydrogen peroxide)

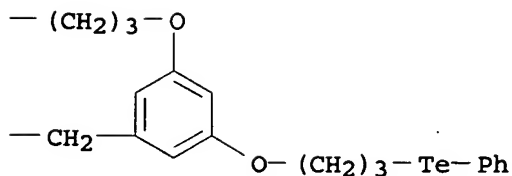
RN 324077-09-0 HCAPLUS

CN Benzene, 1,1',1''-ethylidynetris[4-[[3,5-bis[3-  
 (phenyltelluro)propoxy]phenyl]methoxy]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B





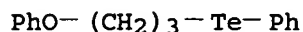
IT 324077-07-8P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(preparation of dendrimeric catalysts for the activation of hydrogen peroxide)

RN 324077-07-8 HCAPLUS

CN Benzene, [(3-phenoxypropyl)telluro]- (9CI) (CA INDEX NAME)



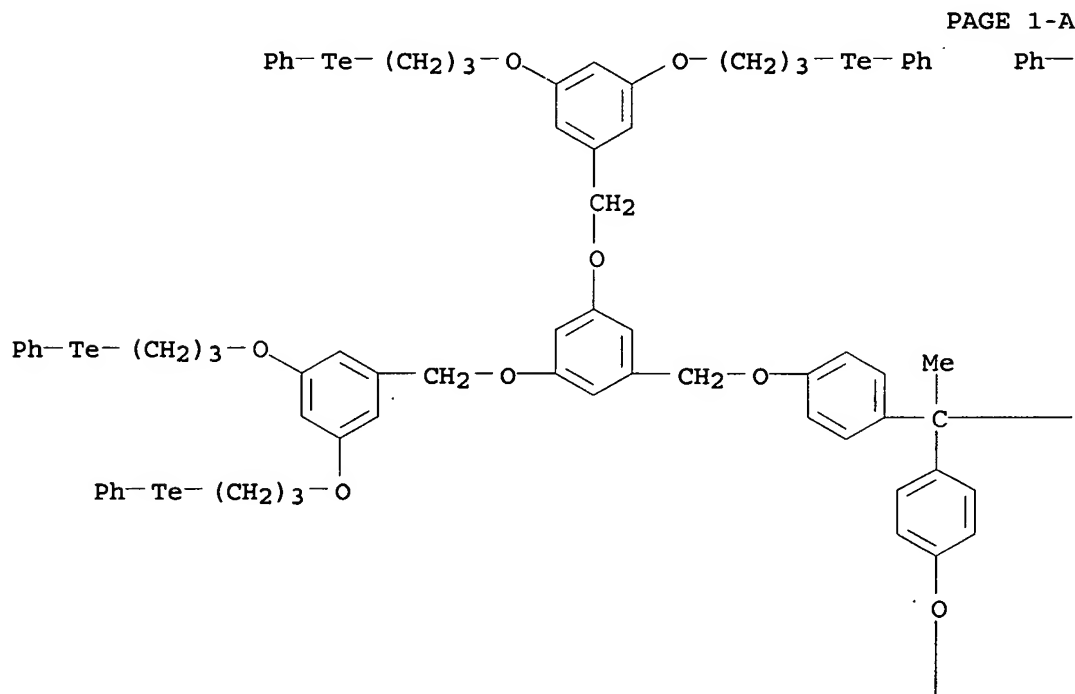
IT 324077-11-4P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

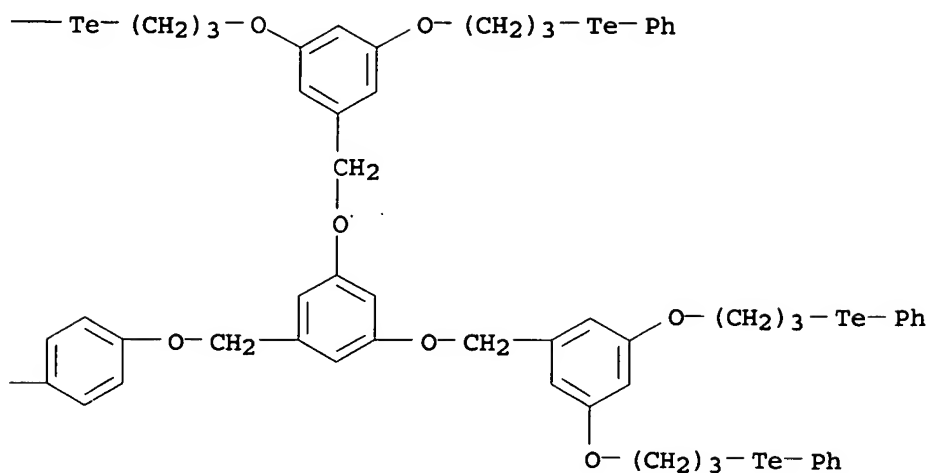
(second generation; preparation of dendrimeric catalysts for the activation of hydrogen peroxide)

RN 324077-11-4 HCAPLUS

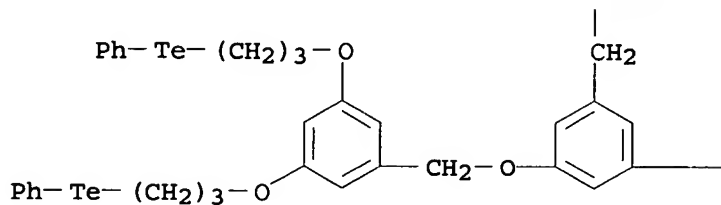
CN Benzene, 1,1',1''-ethylidynetris[4-[[3,5-bis[[3,5-bis[3-(phenyltelluro)propoxy]phenyl]methoxy]phenyl]methoxy]- (9CI) (CA INDEX NAME)



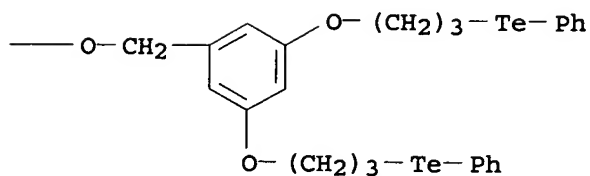
PAGE 1-B



PAGE 2-A



PAGE 2-B



RE.CNT 54 THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 13 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:235737 HCAPLUS

DN 138:401837

TI Mechanistic Studies of the Tellurium(II)/Tellurium(IV)  
Redox Cycle in Thiol Peroxidase-like Reactions of Diorganotellurides in  
Methanol

AU You, Youngjae; Ahsan, Khalid; Detty, Michael R.

CS Department of Chemistry, University at Buffalo, The State University of

New York, Buffalo, NY, 14260-3000, USA

SO Journal of the American Chemical Society (2003), 125(16), 4918-4927  
CODEN: JACSAT; ISSN: 0002-7863

PB American Chemical Society

DT Journal

LA English

OS CASREACT 138:401837

AB Dihexyl telluride (2), di-p-methoxyphenyl telluride (3), and (S)-2-(1-N,N-dimethylaminoethyl)phenyl Ph telluride (4) catalyzed the oxidation of PhSH to PhSSPh with H<sub>2</sub>O<sub>2</sub> in MeOH. Telluride 2 displayed greater rate increase than the diaryltellurides 3 and 4 as determined by the initial rates of PhSSPh production determined at 305 nm by stopped-flow spectroscopy. Rate consts. for the oxidation of tellurides 2-4 (k<sub>ox</sub>), rate consts. for the introduction of PhSH as a ligand to the Te(IV) center (k<sub>PhSH</sub>) of oxidized tellurides 5-7, and thiol-independent (k<sub>1</sub>) and thiol-dependent (k<sub>2</sub>) rate consts. for reductive elimination at Te(IV) in oxidized tellurides 5-7 were determined using stopped-flow techniques. Oxidation of the Te atom of the electron-rich dialkyl telluride 2 was more rapid than oxidation of diaryl tellurides 3 and 4. The dimethylaminoethyl substituent of 4, which acts as a chelating ligand to Te(IV), did not affect k<sub>ox</sub>. Values of k<sub>PhSH</sub> for the introduction of PhSH to oxidized dialkyl telluride 5 and oxidized diaryl telluride 6 were comparable in magnitude, while the chelating dimethylaminoethyl ligand of oxidized telluride 7 diminished k<sub>PhSH</sub> by a factor of 103. Reductive elimination by both first-order, thiol-independent (k<sub>1</sub>) and second-order, thiol-dependent (k<sub>2</sub>) pathways was slower from dialkyl Te(IV) species derived from 2 than from diaryl Te(IV) species derived from 3. The chelating dimethylaminoethyl ligand of Te(IV) species derived from 4 diminished k<sub>1</sub> by a factor of 50 and k<sub>2</sub> by a factor of 3 (relative to the 3-derived species).

CC 29-8 (Organometallic and Organometalloidal Compounds)  
Section cross-reference(s): 22

ST thiophenol oxidn disulfide hydrogen peroxide diorganotelluride catalyst; diorganotelluride oxidn dihydroxytelluride prepn thiophenol oxidn; oxidn kinetics thiophenol hydrogen peroxide diorganotelluride catalyst disulfide; rate const oxidn thiophenol hydrogen peroxide diorganotelluride catalyst; mechanism reaction oxidn thiophenol hydrogen peroxide diorganotelluride catalyst; stopped flow kinetics rate const diorganotelluride catalysis oxidn thiophenol

IT Inductive effect  
(in kinetics and mechanism of hydrogen peroxide oxidation of thiols catalyzed by diorganotellurides)

IT Oxidation catalysts  
Oxidation kinetics  
(kinetics and mechanism of hydrogen peroxide oxidation of thiols catalyzed by diorganotellurides)

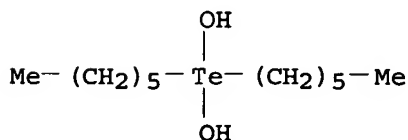
IT Thiols, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(kinetics and mechanism of hydrogen peroxide oxidation of thiols catalyzed by diorganotellurides)

IT Redox reaction  
(of diorganotellurides in catalytic cycle of hydrogen peroxide oxidation of thiols to disulfides)

IT Tellurides  
RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(organotellurides, oxidation; kinetics and mechanism of hydrogen peroxide oxidation of thiols catalyzed by diorganotellurides)

IT Elimination reaction, coordinative  
(reductive, kinetics; of disulfides from bis-thiolato diorganotellurium

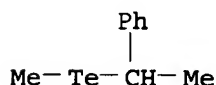
- in catalytic cycle of oxidation of thiols by hydrogen peroxide)
- IT Reaction kinetics  
(stopped-flow; of hydrogen peroxide oxidation of thiols catalyzed by diorganotellurides)
- IT 55843-71-5, Phenyltelluryl bromide  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(arylation; kinetics and mechanism of diorganotellurides catalyzed oxidation of thiols by hydrogen peroxide)
- IT 882-33-7P, Diphenyl disulfide  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(oxidation product; kinetics and mechanism of diorganotellurides catalyzed oxidation of thiols by hydrogen peroxide)
- IT 4456-34-2 158734-99-7, Dihexyl telluride  
RL: CAT (Catalyst use); CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent); USES (Uses)  
(oxidation, rate constant; kinetics and mechanism of diorganotellurides catalyzed oxidation of thiols by hydrogen peroxide)
- IT 528818-21-5P  
RL: CAT (Catalyst use); CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses)  
(oxidation, rate constant; kinetics and mechanism of diorganotellurides catalyzed oxidation of thiols by hydrogen peroxide)
- IT 17279-39-9  
RL: CAT (Catalyst use); CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent); USES (Uses)  
(telluration, thiols oxidation catalyst, rate constant; kinetics and mechanism of diorganotellurides catalyzed oxidation of thiols by hydrogen peroxide)
- IT 528818-22-6P 528818-23-7P 528818-24-8P 529496-73-9P  
RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(thiophenol oxidation, rate constant; kinetics and mechanism of diorganotellurides catalyzed oxidation of thiols by hydrogen peroxide)
- IT 528818-22-6P  
RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(thiophenol oxidation, rate constant; kinetics and mechanism of diorganotellurides catalyzed oxidation of thiols by hydrogen peroxide)
- RN 528818-22-6 HCAPLUS
- CN Tellurium, dihexyldihydroxy-, (T-4)- (9CI) (CA INDEX NAME)



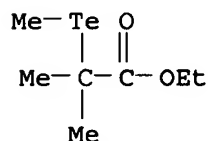
RE.CNT 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 14 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 2002:624964 HCAPLUS  
DN 137:338175

- TI Organotellurium compounds as novel initiators for controlled/living radical polymerizations
- AU Yamago, Shigeru; Iida, Kazunori; Yoshida, Jun-ichi
- CS Dep. Synthetic Chem. Biological Chem., Fac. Eng., Kyoto Univ., Sakyo-ku, Kyoto, 606-8501, Japan
- SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2002), 43(2), 96-97  
CODEN: ACPPAY; ISSN: 0032-3934
- PB American Chemical Society, Division of Polymer Chemistry
- DT Journal; (computer optical disk)
- LA English
- AB The authors report preliminary results on preparation and use of organotellurium initiators for controlled/living radical polymerization of styrene derivs.
- CC 35-3 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 29
- ST organotellurium initiator prepn controlled living radical polymn styrene
- IT Polymerization catalysts  
(living, radical; organotellurium initiators for controlled/living radical polymerization of styrenes)
- IT 4136-95-2DP, 2,4,6-Trichlorobenzoyl chloride, reaction products with pyrenebutanol and polystyrene 67000-89-9DP, 1-Pyrenebutanol, reaction products with trichlorobenzoyl chloride and polystyrene  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(in controlled/living radical polymerization of styrenes)
- IT 76399-11-6 103680-41-7 121335-32-8 314020-06-9  
RL: CAT (Catalyst use); USES (Uses)  
(organotellurium initiators for controlled/living radical polymerization of styrenes)
- IT 415679-75-3P 474094-06-9P  
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(organotellurium initiators for controlled/living radical polymerization of styrenes)
- IT 9003-53-6DP, Polystyrene, functionally terminated 9003-53-6P, Polystyrene 24936-44-5P, Poly(p-methoxystyrene) 24991-47-7P, Poly(p-chlorostyrene) 112835-83-3P, p-Methoxystyrene-styrene block copolymer  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(organotellurium initiators for controlled/living radical preparation of)
- IT 585-71-7, 1-Bromo-1-phenylethane 600-00-0, Ethyl-2-bromoisobutyrate 917-54-4, Methylolithium 13494-80-9, Tellurium, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(starting material; preparation of organotellurium initiators for controlled/living radical polymerization of styrenes)
- IT 415679-75-3P 474094-06-9P  
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(organotellurium initiators for controlled/living radical polymerization of styrenes)
- RN 415679-75-3 HCAPLUS
- CN Benzene, [1-(methyltelluro)ethyl]- (9CI) (CA INDEX NAME)



RN 474094-06-9 HCAPLUS  
 CN Propanoic acid, 2-methyl-2-(methyltelluro)-, ethyl ester (9CI) (CA INDEX NAME)



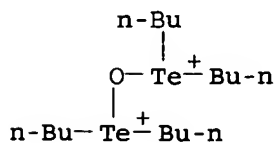
IT 13494-80-9, Tellurium, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (starting material; preparation of organotellurium initiators for controlled/living radical polymerization of styrenes)  
 RN 13494-80-9 HCAPLUS  
 CN Tellurium (8CI, 9CI) (CA INDEX NAME)

Te

RE.CNT 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 15 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2002:494785 HCAPLUS  
 DN 137:185100  
 TI Unexpected Catalyst for Wittig-Type and Dehalogenation Reactions  
 AU Huang, Zheng-Zheng; Tang, Yong  
 CS State Key Laboratory of Organometallic Chemistry, Shanghai Institute of Organic Chemistry, Shanghai, 200032, Peop. Rep. China  
 SO Journal of Organic Chemistry (2002), 67(15), 5320-5326  
 CODEN: JOCEAH; ISSN: 0022-3263  
 PB American Chemical Society  
 DT Journal  
 LA English  
 OS CASREACT 137:185100  
 AB A novel catalyst, Bu<sub>2</sub>Te(Br)OTeBu<sub>2</sub>Br (I), for Wittig-type and dehalogenation reactions was developed. In the presence of tri-Ph phosphite, a wide variety of aldehydes could react with α-bromoacetates to afford α,β-unsatd. esters or ketones in high yields with excellent E-stereoselectivity when 1-2 mol % of I was used. I was also an effective catalyst for reductive dehalogenation of α-bromocarbonyl compds. Mechanisms for the above reactions were proposed.  
 CC 21-2 (General Organic Chemistry)  
 ST tellurium catalyst Wittig reaction reductive dehalogenation; aldehyde Wittig reaction bromoacetate tellurium catalyst; bromocarbonyl compd reductive dehalogenation tellurium catalyst  
 IT Carbonyl compounds (organic), reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (bromo; tellurium catalyst for Wittig-type and reductive dehalogenation reactions)  
 IT Dehalogenation catalysts  
 (reductive; tellurium catalyst for Wittig-type and reductive dehalogenation reactions)  
 IT Wittig reaction catalysts  
 (tellurium catalyst for Wittig-type and reductive

- dehalogenation reactions)
- IT Aldehydes, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(tellurium catalyst for Wittig-type and reductive dehalogenation reactions)
- IT 452064-21-0P  
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(tellurium catalyst for Wittig-type and reductive dehalogenation reactions)
- IT 70-11-1, 2-Bromoacetophenone 89-98-5, 2-Chlorobenzaldehyde 98-01-1, Furfural, reactions 99-81-0 100-52-7, Benzaldehyde, reactions 104-87-0, 4-Methylbenzaldehyde 104-88-1, 4-Chlorobenzaldehyde, reactions 105-36-2, Ethyl bromoacetate 112-31-2, Decanal 123-11-5, 4-Methoxybenzaldehyde, reactions 135-02-4, 2-Methoxybenzaldehyde 455-19-6, 4-(Trifluoromethyl)benzaldehyde 536-38-9 587-04-2, 3-Chlorobenzaldehyde 619-41-0, 2-Bromo-4'-methylacetophenone 2043-61-0, Cyclohexanecarboxaldehyde 2114-00-3, 2-Bromopropiophenone 2114-03-6, 2,2-Dibromopropiophenone 2196-99-8, 2-Chloro-4'-methoxyacetophenone 2632-13-5 5292-43-3, tert-Butyl bromoacetate 13664-92-1, 2,2-Dibromo-4'-methoxyacetophenone 13665-04-8, 2,2-Dibromoacetophenone 14371-10-9, (E)-Cinnamaldehyde 15960-79-9, Di-tert-butyl bromomalonate 38788-38-4, Dibutyltellurium  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(tellurium catalyst for Wittig-type and reductive dehalogenation reactions)
- IT 111873-49-5P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(tellurium catalyst for Wittig-type and reductive dehalogenation reactions)
- IT 93-55-0P, Propiophenone 98-86-2P, Acetophenone, preparation 99-91-2P, 4'-Chloroacetophenone 100-06-1P, 4'-Methoxyacetophenone 100-19-6P, 4'-Nitroacetophenone 122-00-9P, 4'-Methylacetophenone 541-16-2P, Di-tert-butyl malonate 4192-77-2P, (E)-Ethyl cinnamate 17343-88-3P 22252-16-0P 24393-49-5P 24393-51-9P 24393-52-0P 24393-54-2P 24393-56-4P 28290-90-6P, (E)-Ethyl 2-dodecenoate 39806-16-1P 53282-12-5P 62174-98-5P 125950-99-4P 128408-03-7P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(tellurium catalyst for Wittig-type and reductive dehalogenation reactions)
- IT 452064-21-0P  
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(tellurium catalyst for Wittig-type and reductive dehalogenation reactions)
- RN 452064-21-0 HCAPLUS
- CN Telluronium, oxybis[dibutyl-, dibromide (9CI) (CA INDEX NAME)



● 2 Br<sup>-</sup>

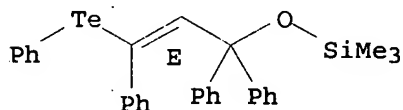
RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 16 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 2002:323906 HCAPLUS  
DN 137:140549  
TI Convergent synthesis of silylated allylic alcohols by a stereoselective domino, sequential radical-coupling reaction  
AU Yamago, Shigeru; Miyoshi, Masaki; Miyazoe, Hiroshi; Yoshida, Junichi  
CS Department of Synthetic Chemistry and Biological Chemistry Graduate School of Engineering, Kyoto University, Kyoto, 606-8501, Japan  
SO Angewandte Chemie, International Edition (2002), 41(8), 1407-1409  
CODEN: ACIEF5; ISSN: 1433-7851  
PB Wiley-VCH Verlag GmbH  
DT Journal  
LA English  
OS CASREACT 137:140549  
AB The domino, sequential coupling reaction provides a convergent and stereo-selective synthetic route for allylic alcs. from carbonyl compds., alkynes, and alkenes (see scheme). The reaction involves sequential radical coupling reactions initiated by the  $\alpha$ -siloxy radicals, which are generated from carbonyl compds. and silyl tellurides. Thus, group-transfer coupling of Me<sub>3</sub>SiTePh with Ph<sub>2</sub>CO and PhC.tplbond.CH in a sealed tube at 100° gave 93% (E)-PhTeCPh:CHCPh<sub>2</sub>OSiMe<sub>3</sub>.  
CC 29-6 (Organometallic and Organometalloidal Compounds)  
Section cross-reference(s): 21  
ST convergent synthesis silylated allylic alc; stereoselective domino radical coupling silyl telluride carbonyl compd alkyne  
IT Alcohols, preparation  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(allyl, silylated; convergent synthesis of silylated allylic alcs. by stereoselective domino, sequential radical-coupling reaction of silyl telluride with carbonyl compound and alkyne)  
IT Coupling reaction  
Stereoselective synthesis  
(convergent synthesis of silylated allylic alcs. by stereoselective domino, sequential radical-coupling reaction of silyl telluride with carbonyl compound and alkyne)  
IT Alkynes  
Carbonyl compounds (organic), reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(convergent synthesis of silylated allylic alcs. by stereoselective domino, sequential radical-coupling reaction of silyl telluride with carbonyl compound and alkyne)  
IT 100-52-7, Benzaldehyde, reactions 119-61-9, Benzophenone, reactions 530-44-9 536-74-3, Phenylacetylene 611-70-1, Isopropyl phenyl ketone 611-94-9, p-Methoxybenzophenone 623-47-2, Ethyl propiolate 766-96-1, (p-Bromophenyl)acetylene 931-49-7, 1-Ethynylcyclohexene 1191-95-3, Cyclobutanone 2043-61-0, Cyclohexanecarboxaldehyde 2510-23-8, 3-Pyridylacetylene 10602-03-6 73296-31-8, Trimethyl(phenyltelluro)silane  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(convergent synthesis of silylated allylic alcs. by stereoselective domino, sequential radical-coupling reaction of silyl telluride with carbonyl compound and alkyne)  
IT 444929-14-0P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and radical initiated carbon-carbon coupling reaction



of)  
IT 444929-15-1P 444929-16-2P 444929-17-3P 444929-18-4P 444929-19-5P  
444929-20-8P 444929-21-9P 444929-22-0P 444929-23-1P 444929-24-2P  
444929-25-3P 444929-26-4P 444929-27-5P 444929-28-6P 444929-29-7P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)  
IT 624-49-7, Dimethyl fumarate 108286-71-1  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(radical initiated carbon-carbon coupling reaction with silylated  
allylic alc.)  
IT 314020-06-9  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction with Et propiolate)  
IT 444929-14-0P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)  
(preparation and radical initiated carbon-carbon coupling reaction  
of)  
RN 444929-14-0 HCAPLUS  
CN Silane, trimethyl[[(2E)-1,1,3-triphenyl-3-(phenyltelluro)-2-propenyl]oxy]-  
(9CI) (CA INDEX NAME)

Double bond geometry as shown.



RE.CNT 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 17 OF 23 HCAPLUS . COPYRIGHT 2005 ACS on STN  
AN 2002:247273 HCAPLUS  
DN 136:401300  
TI Wittig-Type Olefination Catalyzed by PEG-telluride  
AU Huang, Zheng-Zheng; Ye, Song; Xia, Wei; Yu, Yi-Hua; Tang, Yong  
CS State Key Laboratory of Organometallic Chemistry, Shanghai Institute of  
Organic Chemistry, Shanghai, 200032, Peop. Rep. China  
SO Journal of Organic Chemistry (2002), 67(9), 3096-3103  
CODEN: JOCEAH; ISSN: 0022-3263  
PB American Chemical Society  
DT Journal  
LA English  
OS CASREACT 136:401300  
AB Soluble poly(ethylene glycol) (PEG)-supported telluride BuTe-PEG-TeBu was  
designed and synthesized for catalytic Wittig-type reactions. It was  
found that the catalytic loading could be reduced from 20 to 2 mol % by  
the introduction of PEG (even to 0.5 mol % when some telluride salts were  
used as the catalyst). Under the catalytic reaction conditions, a wide  
variety of aldehydes with different structures could react with  
bromoacetate to afford  $\beta$ -substituted or  $\alpha,\beta$ -disubstituted  
unsatd. esters in high yields with excellent E-stereoselectivity. The  
modified process, by using sodium bisulfite instead of tri-Ph phosphite,  
represented a very simple product isolation procedure. The roles of PEG  
for promoting the ylide formation and stabilizing the catalytic species  
were disclosed. The mechanism was also studied.  
CC 21-2 (General Organic Chemistry)  
ST Wittig olefination catalyst PEG telluride

IT Stereoselective synthesis  
Wittig reaction  
(Wittig-type olefination catalyzed by PEG-telluride)

IT Aldehydes, reactions  
Polyoxyalkylenes, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(Wittig-type olefination catalyzed by PEG-telluride)

IT Crystal structure  
Molecular structure  
(of tellurium compds.)

IT 2555-49-9P  
RL: BYP (Byproduct); PREP (Preparation)  
(Wittig-type olefination catalyzed by PEG-telluride)

IT 101-02-0, Triphenoxyphosphine 7631-90-5, Sodium bisulfite 38788-38-4,  
Dibutyltellurium 428818-97-7  
RL: CAT (Catalyst use); USES (Uses)  
(Wittig-type olefination catalyzed by PEG-telluride)

IT 370839-58-0P  
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP  
(Preparation); USES (Uses)  
(Wittig-type olefination catalyzed by PEG-telluride)

IT 111873-49-5P  
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)  
(Wittig-type olefination catalyzed by PEG-telluride)

IT 428818-96-6P 428819-00-5P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(Wittig-type olefination catalyzed by PEG-telluride)

IT 70-11-1, Bromomethyl phenyl ketone 98-01-1, 2-Formylfuran, reactions  
100-52-7, Benzaldehyde, reactions 104-87-0, 4-Methylbenzaldehyde  
104-88-1, 4-Chlorobenzaldehyde, reactions 105-36-2, Ethyl bromoacetate  
109-64-8, 1,3-Dibromopropane 112-31-2, Decanal 123-11-5,  
4-Methoxybenzaldehyde, reactions 455-19-6, 4-Trifluoromethylbenzaldehyde  
555-16-8, 4-Nitrobenzaldehyde, reactions 643-79-8, 1,2-  
Benzenedicarboxaldehyde 2043-61-0, Formylcyclohexane 5292-43-3,  
tert-Butyl bromoacetate 14371-10-9, (E)-Cinnamaldehyde 23558-05-6  
25322-68-3, Poly(ethylene glycol) 120157-71-3 428818-92-2  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(Wittig-type olefination catalyzed by PEG-telluride)

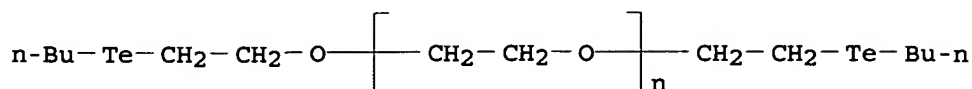
IT 588-63-6P 35164-96-6P 428818-95-5P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(Wittig-type olefination catalyzed by PEG-telluride)

IT 98-86-2P, Acetophenone, preparation 141-78-6P, Ethyl acetate,  
preparation 4192-77-2P 7042-36-6P 17343-88-3P 22252-16-0P  
24393-49-5P 24393-52-0P 24393-56-4P 28290-90-6P 39806-16-1P  
53282-12-5P 53484-52-9P 87947-80-6P 108788-49-4P 120823-67-8P  
125950-99-4P 125951-00-0P 128408-03-7P 164660-12-2P 180515-27-9P  
370839-59-1P 370839-60-4P 428818-93-3P 428818-94-4P 428818-98-8P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(Wittig-type olefination catalyzed by PEG-telluride)

IT 370839-58-0P  
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP  
(Preparation); USES (Uses)  
(Wittig-type olefination catalyzed by PEG-telluride)

RN 370839-58-0 HCAPLUS

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -[2-(butyltelluro)ethyl]- $\omega$ -[2-  
(butyltelluro)ethoxy]- (9CI) (CA INDEX NAME)



RE.CNT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 18 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:149257 HCAPLUS

DN 136:325891

TI Organotellurium Compounds as Novel Initiators for Controlled/Living Radical Polymerizations. Synthesis of Functionalized Polystyrenes and End-Group Modifications

AU Yamago, Shigeru; Iida, Kazunori; Yoshida, Junichi

CS Department of Synthetic Chemistry and Biological Chemistry, Graduate School of Engineering, Kyoto University, Sakyo-ku, Kyoto, 606-8501, Japan

SO Journal of the American Chemical Society (2002), 124(12), 2874-2875

CODEN: JACSAT; ISSN: 0002-7863

PB American Chemical Society

DT Journal

LA English

AB Polymer-end mimetic organotellurium compds. initiate controlled/living radical polymerization of styrene derivs. that allows accurate mol. weight control with defined end-groups. Transformations of the end-groups via radical and ionic reactions provide a variety of end-group modified polystyrenes.

CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 29

ST tellurium compd initiator radical polymn styrene; polystyrene functionalization tellurium initiator living polymn

IT Polymerization catalysts

(living, radical; controlled-living radical polymns. of styrene in presence of organotellurium initiators for preparation of functionalized polystyrenes and end-group modifications)

IT 415679-75-3P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP

(Preparation); USES (Uses)

(controlled-living radical polymns. of styrene in presence of organotellurium initiators for preparation of functionalized polystyrenes and end-group modifications)

IT 9003-53-6DP, Polystyrene, derivs. 67000-89-9DP, 1-Pyrenebutanol, reaction products with polystyrene derivs. 123706-82-1DP, Ethyl 2-tributylstannylmethacrylate, reaction products with polystyrene derivs.

RL: SPN (Synthetic preparation); PREP (Preparation)

(controlled-living radical polymns. of styrene in presence of organotellurium initiators for preparation of functionalized polystyrenes and end-group modifications)

IT 585-71-7, 1-Bromo-1-phenylethane 917-54-4, Methylolithium

RL: RCT (Reactant); RACT (Reactant or reagent)

(in preparation of Me phenylethyl telluride initiator for controlled-living radical polymerization of styrene)

IT 415679-75-3P

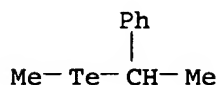
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP

(Preparation); USES (Uses)

(controlled-living radical polymns. of styrene in presence of organotellurium initiators for preparation of functionalized polystyrenes and end-group modifications)

RN 415679-75-3 HCAPLUS

CN Benzene, [1-(methyltelluro)ethyl]- (9CI) (CA INDEX NAME)



RE.CNT 56 THERE ARE 56 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 19 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 2001:528373 HCAPLUS  
DN 135:344254  
TI A practical catalytic Wittig-type reaction  
AU Huang, Zheng-Zheng; Ye, Song; Xia, Wei; Tang, Yong  
CS Laboratory of Organometallic Chemistry, Shanghai Institute of Organic  
Chemistry, Shanghai, 200032, Peop. Rep. China  
SO Chemical Communications (Cambridge, United Kingdom) (2001), (15),  
1384-1385  
CODEN: CHCOFS; ISSN: 1359-7345  
PB Royal Society of Chemistry  
DT Journal  
LA English  
OS CASREACT 135:344254  
AB A soluble PEG-supported telluride was synthesized and is an effective  
catalyst for the catalytic Wittig-type reaction to give a variety of  
 $\alpha,\beta$ -unsatd. esters in high yields with excellent  
E-stereoselectivity in the presence of Na bisulfite as well as tri-Ph  
phosphite.  
CC 25-18 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)  
ST PEG supported telluride catalyst stereoselective Wittig prepn unsatd ester  
IT Polymer-supported reagents  
Stereoselective synthesis  
Wittig reaction  
(PEG-supported telluride catalyst for stereoselective Wittig preparation of  
unsatd. esters)  
IT Condensation reaction catalysts  
(Wittig reaction catalysts; PEG-supported telluride catalyst for  
stereoselective Wittig preparation of unsatd. esters)  
IT Wittig reaction  
(catalysts; PEG-supported telluride catalyst for stereoselective Wittig  
preparation of unsatd. esters)  
IT Polyoxyalkylenes, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of PEG-supported telluride catalysts)  
IT Esters, preparation  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(unsatd.; PEG-supported telluride catalyst for stereoselective Wittig  
preparation of unsatd. esters)  
IT 101-02-0, Triphenyl phosphite 7631-90-5, Sodium bisulfite  
RL: CAT (Catalyst use); USES (Uses)  
(PEG-supported telluride catalyst for stereoselective Wittig preparation of  
unsatd. esters)  
IT 370839-58-0P  
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP  
(Preparation); USES (Uses)  
(PEG-supported telluride catalyst for stereoselective Wittig preparation of  
unsatd. esters)  
IT 98-01-1, Furfural, reactions 100-52-7, Benzaldehyde, reactions  
104-87-0, p-Tolualdehyde 104-88-1, 4-Chlorobenzaldehyde, reactions  
105-36-2, Ethyl bromoacetate 112-31-2, Decanal 123-11-5,

p-Anisaldehyde, reactions 455-19-6, 4-Trifluoromethylbenzaldehyde  
 555-16-8, 4-Nitrobenzaldehyde, reactions 643-79-8, Phthalaldehyde  
 2043-61-0, Cyclohexanecarboxaldehyde 5292-43-3, Methyl bromoacetate  
 14371-10-9, trans-Cinnamaldehyde 370839-62-6

RL: RCT (Reactant); RACT (Reactant or reagent)

(PEG-supported telluride catalyst for stereoselective Wittig preparation of unsatd. esters)

IT 4192-77-2P 7042-36-6P 17343-88-3P 24393-49-5P 24393-52-0P  
 24393-56-4P 28290-90-6P 39806-16-1P 53282-12-5P 53484-52-9P  
 87947-80-6P 120823-67-8P 125950-99-4P 125951-00-0P 128408-03-7P  
 164660-12-2P 180515-27-9P 370839-59-1P 370839-60-4P 370839-61-5P

RL: SPN (Synthetic preparation); PREP (Preparation)

(PEG-supported telluride catalyst for stereoselective Wittig preparation of unsatd. esters)

IT 25322-68-3, Polyethylene glycol 120157-71-3, Lithium butyltelluride

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of PEG-supported telluride catalysts)

IT 35164-96-6P, Polyethylene glycol bistosylate

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of PEG-supported telluride catalysts)

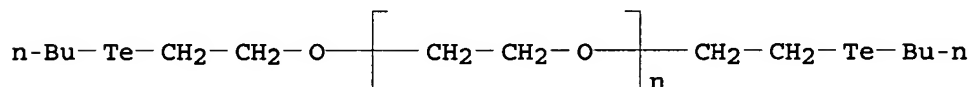
IT 370839-58-0P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(PEG-supported telluride catalyst for stereoselective Wittig preparation of unsatd. esters)

RN 370839-58-0 HCAPLUS

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -[2-(butyltelluro)ethyl]- $\omega$ -[2-(butyltelluro)ethoxy]- (9CI) (CA INDEX NAME)



RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 20 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:439694 HCAPLUS

DN 136:104159

TI Anchored homogeneous catalyst precursors

AU Anderson, Stephen; Yang, Hong; Tanielyan, Setrak K.; Augustine, Robert L.

CS Center for Applied Catalysis, Seton Hall University, South Orange, NJ,  
 07079, USA

SO Chemical Industries (Dekker) (2001), 82(Catalysis of Organic Reactions),  
 557-562

CODEN: CHEIDI; ISSN: 0737-8025

PB Marcel Dekker, Inc.

DT Journal

LA English

AB Virtually all previously reported attempts at attaching homogeneous catalysts to a solid support have been concerned with making a solid ligand and then using this 'heterogeneous ligand' to prepare the active catalyst. Such an approach can require considerable synthetic efforts to produce the 'heterogeneous ligand' particularly if one wants to incorporate onto a solid one of the more complex chiral ligands in use today. Our approach to anchoring homogeneous catalysts involves the attachment of the homogeneous catalyst to the support using a heteropoly

acid which interacts with both the support material and the metal atom of the complex. We have used this procedure to anchor catalyst precursors, such as Rh(COD)<sub>2</sub>, and Ru(p-cymene) to an alumina support and then treated these materials with a number of different chiral and achiral ligands to prepare anchored homogeneous catalysts.

CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)

Section cross-reference(s): 67

ST anchored homogeneous catalyst precursor

IT Heteropoly acids

RL: CAT (Catalyst use); USES (Uses)

(alumina modified with, catalyst supports; anchored homogeneous catalyst precursors)

IT Hydrogenation catalysts

(anchored homogeneous catalyst precursors)

IT 51509-06-9P 126693-75-2P **326894-50-2P**

RL: CAT (Catalyst use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(anchored homogeneous catalyst precursors)

IT **326894-50-2P**

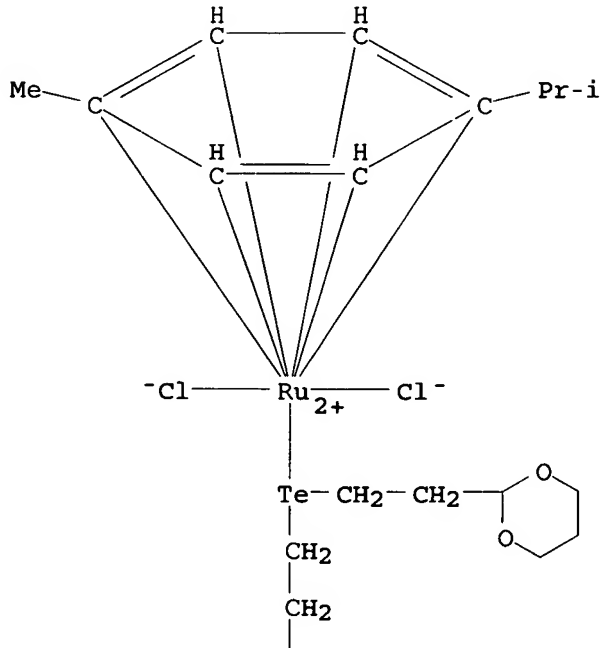
RL: CAT (Catalyst use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(anchored homogeneous catalyst precursors)

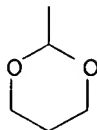
RN 326894-50-2 HCAPLUS

CN Ruthenium, dichloro[(1,2,3,4,5,6-η)-1-methyl-4-(1-methylethyl)benzene][2,2'-[(telluro-κTe)di-2,1-ethanediyl]bis[1,3-dioxane]]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 21 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 2001:14331 HCAPLUS  
DN 134:222274  
TI Iodination of Organic Substrates with Halide Salts and H2O2 Using an  
Organotelluride Catalyst  
AU Higgs, Donald E.; Nelen, Marina I.; Detty, Michael R.  
CS Department of Chemistry Division of Medicinal Chemistry, State University  
of New York at Buffalo, Buffalo, NY, 14260, USA  
SO Organic Letters (2001), 3(3), 349-352  
CODEN: ORLEF7; ISSN: 1523-7060  
PB American Chemical Society  
DT Journal  
LA English  
OS CASREACT 134:222274  
AB Organotelluride 4-[(NaO2CCH2)2N]C6H4TeCH2CH2CH2OPh is a water-soluble  
catalyst for the oxidation of iodide with hydrogen peroxide in pH 6 phosphate  
buffer. In two-phase systems, organic substrates are efficiently iodinated  
using 0.8 mol % of catalyst. Water-soluble substrates are iodinated without  
an organic cosolvent. E.g., iodination of 4-pentenoic acid gave 94%  
5-iodo-γ-valerolactone.  
CC 21-2 (General Organic Chemistry)  
ST iodination org compd organotelluride catalyst; telluride organo catalyst  
iodination org compd  
IT Bromination  
Bromination catalysts  
(bromination of organic substrates with NaBr and H2O2 using an  
organotelluride catalyst)  
IT Iodination  
Iodination catalysts  
(iodination of organic substrates with halide salts and H2O2 using an  
organotelluride catalyst)  
IT Regiochemistry  
(of iodination of organic substrates with halide salts and H2O2 using an  
organotelluride catalyst)  
IT 1131-40-4P 32730-32-8P 78181-02-9P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(bromination of organic substrates with NaBr and H2O2 using an  
organotelluride catalyst)  
IT 329311-06-0P  
RL: CAT (Catalyst use); PRP (Properties); SPN (Synthetic  
preparation); PREP (Preparation); USES (Uses)  
(iodination of organic substrates with halide salts and H2O2 using an  
organotelluride catalyst)  
IT 92-53-5, 4-Phenylmorpholine 121-69-7, N,N-Dimethylaniline, reactions  
588-63-6, 1-Bromo-3-phenoxypropane 591-80-0, 4-Pentenoic acid  
621-23-8, 1,3,5-Trimethoxybenzene 821-09-0, 4-Penten-1-ol 6966-03-6  
18294-87-6, 1-Cyclohexene-1-acetic acid 25350-31-6 55932-12-2  
RL: RCT (Reactant); RACT (Reactant or reagent)

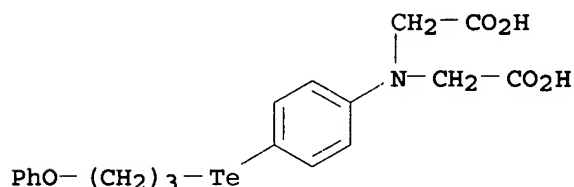
(iodination of organic substrates with halide salts and H2O2 using an organotelluride catalyst)

IT 329311-07-1P 329311-08-2P 329368-37-8P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (iodination of organic substrates with halide salts and H2O2 using an organotelluride catalyst)

IT 698-70-4P 1729-32-4P 2510-49-8P 5831-70-9P 53560-49-9P  
 54486-99-6P 87350-77-4P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (iodination of organic substrates with halide salts and H2O2 using an organotelluride catalyst)

IT 329311-06-0P  
 RL: CAT (Catalyst use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (iodination of organic substrates with halide salts and H2O2 using an organotelluride catalyst)

RN 329311-06-0 HCAPLUS  
 CN Glycine, N-(carboxymethyl)-N-[4-[(3-phenoxypropyl)telluro]phenyl]-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

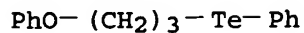
L36 ANSWER 22 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2000:864772 HCAPLUS  
 DN 134:153106  
 TI Dendrimeric Organochalcogen Catalysts for the Activation of Hydrogen Peroxide: Improved Catalytic Activity through Statistical Effects and Cooperativity in Successive Generations  
 AU Francavilla, Charles; Drake, Michael D.; Bright, Frank V.; Detty, Michael R.  
 CS Departments of Chemistry and Medicinal Chemistry, State University of New York at Buffalo, Buffalo, NY, 14260, USA  
 SO Journal of the American Chemical Society (2001), 123(1), 57-67  
 CODEN: JACSAT; ISSN: 0002-7863  
 PB American Chemical Society  
 DT Journal  
 LA English  
 AB Dendrimeric polyphenylsulfides, -selenides, and -tellurides are prepared in high yield using propyloxy spacers to connect the phenylchalcogeno groups to the dendrimeric core. The selenides and tellurides catalyze the oxidation of bromide with hydrogen peroxide to give pos. bromine species that can be captured by cyclohexene in two-phase systems. The corresponding sulfides show no catalytic activity. The increase in the rate of catalysis followed statistical effects for 1, 6, and 12 phenyltelluro groups.



However, the increase in the rate of catalysis exceeds statistical contributions for the first few generations with 1, 3, 6, and 12 phenylseleno groups and suggested cooperativity among phenylseleno groups. The increase in catalytic rate was lost upon replacing all but one phenylseleno group with phenoxy groups. On the basis of H<sub>2</sub>O<sub>2</sub> consumed, the dendrimer with 12 phenylseleno groups has a turnover number of >60 000 mol of H<sub>2</sub>O<sub>2</sub> consumed per mol of catalyst.

- CC 67-2 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms)  
Section cross-reference(s): 24, 38
- ST statistical effect dendrimeric organochalcogen catalyst activation  
hydrogen peroxide; cooperativity successive generation dendrimeric  
organochalcogen catalyst activation hydrogen peroxide
- IT Bromination catalysts  
Bromination kinetics  
Oxidation catalysts  
(dendrimeric organochalcogen catalysts for activation of hydrogen  
peroxide and improved catalytic activity through statistical effects  
and cooperativity in successive generations)
- IT Dendritic polymers  
RL: CAT (Catalyst use); PRP (Properties); SPN (Synthetic preparation);  
PREP (Preparation); USES (Uses)  
(dendrimeric organochalcogen catalysts for activation of hydrogen  
peroxide and improved catalytic activity through statistical effects  
and cooperativity in successive generations)
- IT 59950-10-6P 247122-90-3P 247122-93-6P 247123-07-5P  
324077-07-8P 324077-08-9P 324077-09-0P 324077-10-3P  
324077-11-4P 324077-12-5P  
RL: CAT (Catalyst use); PRP (Properties); SPN (Synthetic  
preparation); PREP (Preparation); USES (Uses)  
(dendrimeric organochalcogen catalysts for activation of hydrogen  
peroxide and improved catalytic activity through statistical effects  
and cooperativity in successive generations)
- IT 110-83-8, Cyclohexene, reactions 121-44-8, Triethylamine, reactions  
124-63-0, Mesyl chloride 588-63-6, 1-Bromo-3-phenoxypropane 627-18-9  
7722-84-1, Hydrogen peroxide, reactions 18162-48-6 24959-67-9,  
Bromide, reactions 27955-94-8 28106-21-0, Dihydroxybenzylalcohol  
28405-79-0, 4-(Diethylamino)pyridine 29654-55-5, 3,5-Dihydroxybenzyl  
alcohol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(dendrimeric organochalcogen catalysts for activation of hydrogen  
peroxide and improved catalytic activity through statistical effects  
and cooperativity in successive generations)
- IT 930-69-8P, Sodium phenylsulfide 23974-72-3P, Sodium phenylselenide  
41422-67-7P, Sodium phenyltelluride 89031-84-5P 247122-91-4P  
247122-92-5P 247122-94-7P 247122-96-9P 247122-97-0P 247123-01-9P  
247123-03-1P 247123-04-2P 247123-05-3P 247123-06-4P 324077-05-6P  
324077-06-7P 324077-13-6P 324077-14-7P 324077-15-8P 324077-16-9P  
324077-17-0P 324077-18-1P 324077-19-2P 324077-20-5P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(dendrimeric organochalcogen catalysts for activation of hydrogen  
peroxide and improved catalytic activity through statistical effects  
and cooperativity in successive generations)
- IT 324077-07-8P 324077-09-0P 324077-11-4P  
RL: CAT (Catalyst use); PRP (Properties); SPN (Synthetic  
preparation); PREP (Preparation); USES (Uses)  
(dendrimeric organochalcogen catalysts for activation of hydrogen  
peroxide and improved catalytic activity through statistical effects  
and cooperativity in successive generations)
- RN 324077-07-8 HCAPLUS

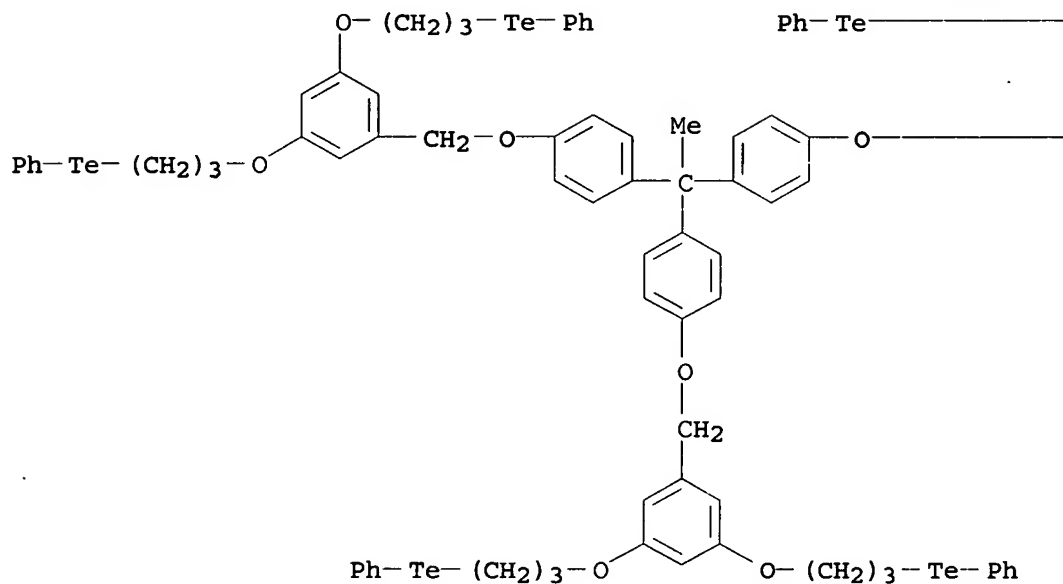
CN Benzene, [(3-phenoxypropyl)telluro]- (9CI) (CA INDEX NAME)



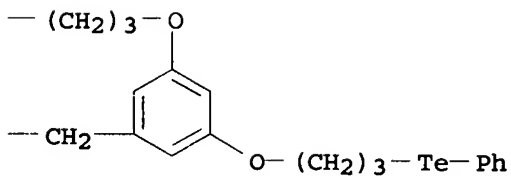
RN 324077-09-0 HCAPLUS

CN Benzene, 1,1',1'',1'''-ethylidynetris[4-[[3,5-bis[3-(phenyltelluro)propoxy]phenyl]methoxy]- (9CI) (CA INDEX NAME)

PAGE 1-A



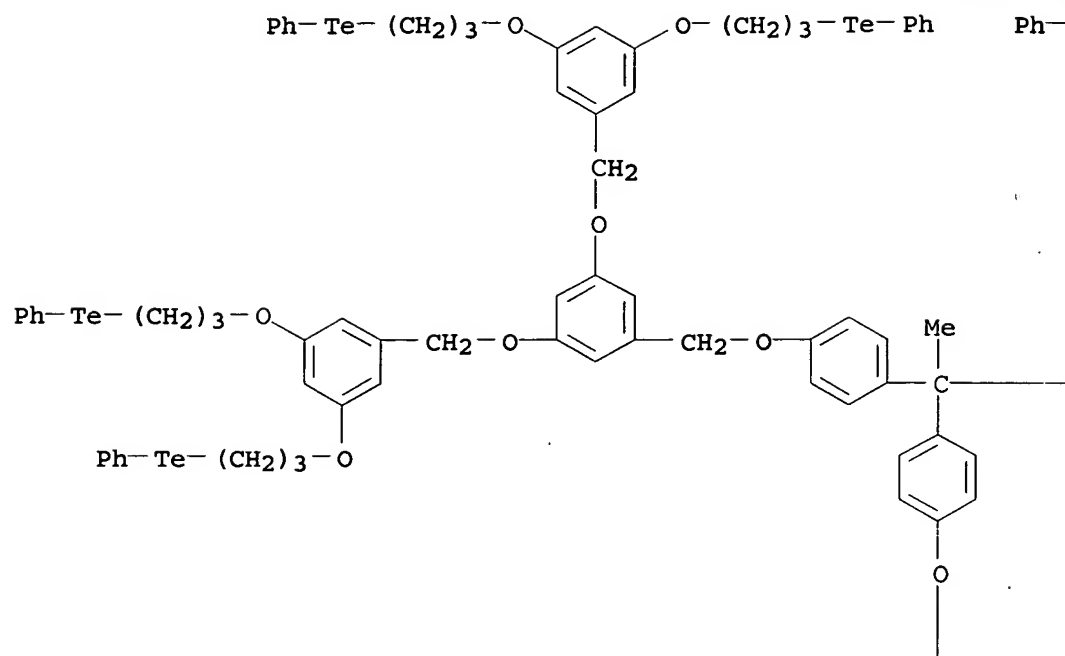
PAGE 1-B



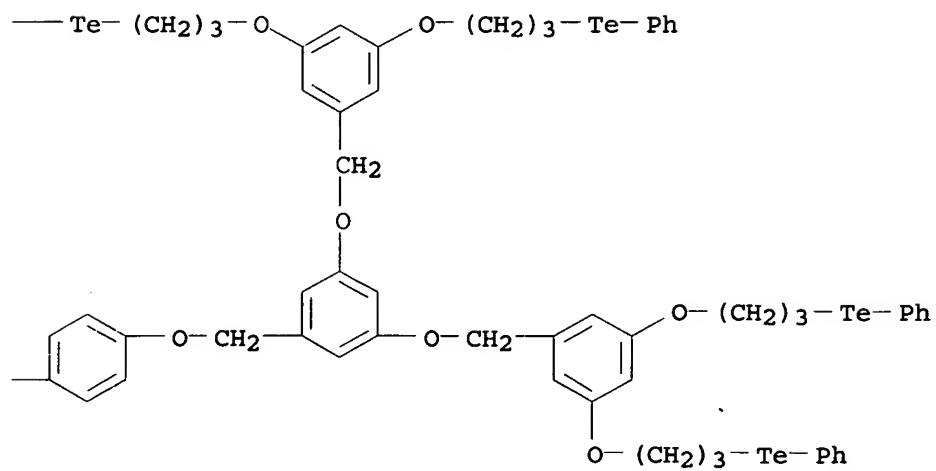
RN 324077-11-4 HCAPLUS

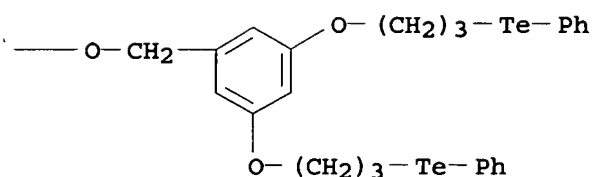
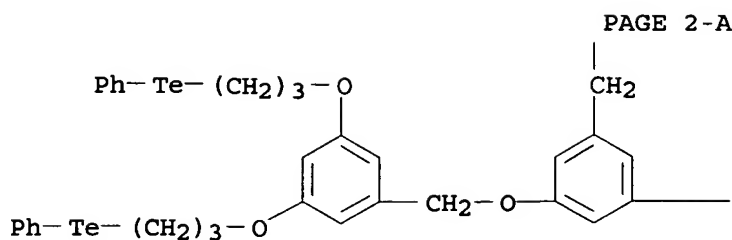
CN Benzene, 1,1',1'',1'''-ethylidynetris[4-[[3,5-bis[[3,5-bis[3-(phenyltelluro)propoxy]phenyl]methoxy]phenyl]methoxy]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



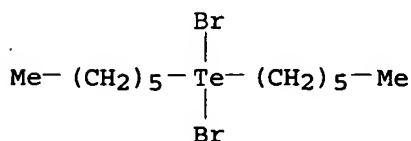


RE.CNT 54 THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 23 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1998:48062 HCAPLUS  
 DN 128:61176  
 TI Debrominations of vic-Dibromides with Diorganotellurides. 2. Catalytic Processes in Diorganotelluride  
 AU Butcher, Timothy S.; Detty, Michael R.  
 CS Department of Medicinal Chemistry School of Pharmacy, SUNY at Buffalo, Amherst, NY, 14260, USA  
 SO Journal of Organic Chemistry (1998), 63(1), 177-180  
 CODEN: JOCEAH; ISSN: 0022-3263  
 PB American Chemical Society  
 DT Journal  
 LA English  
 OS CASREACT 128:61176  
 AB Debrominations of vic-dibromides with catalytic quantities of the electron-rich diorganotellurides [e.g.,  $[\text{Me}(\text{CH}_2)_5]_2\text{Te}$ ] in a two-phase system of pH 8.9 buffer/ $\text{CHCl}_3$  give the corresponding olefins and  $\text{Te}(\text{IV})$  dibromides [e.g.,  $[\text{Me}(\text{CH}_2)_5]_2\text{TeBr}_2$ ]. The  $\text{Te}(\text{IV})$  dibromides are reduced to tellurides with either glutathione or sodium ascorbate dissolved in the buffer. The reactions are highly stereospecific with erythro-dibromides giving trans-olefins and threo-dibromides giving cis-olefins. The reactivity of substrates follows the order predicted by the generation of bromonium ions from the vicinal dibromides. Threo-2,3-Dibromopentane and threo-2,3-dibromo-4-methylpentane are the slowest reacting substrates in the series. Debrominations of these substrates is accelerated by the addition of iodide to the reaction mixts.  
 CC 22-4 (Physical Organic Chemistry)  
 Section cross-reference(s): 23, 25, 29  
 ST stereoselective debromination vicinal dibromide telluride catalytic;

- glutathione reducing agent catalytic debromination; sodium ascorbate reducing agent catalytic debromination
- IT Dehalogenation kinetics  
Dehalogenation kinetics  
(debromination kinetics, stereoselective; stereoselective debromination of vic-dibromides catalyzed by electron-rich diorganotellurides in presence of glutathione or sodium ascorbate as reducing agents)
- IT Protective groups  
(deprotection of alkenes protected as vic-dibromides; stereoselective debromination of vic-dibromides catalyzed by electron-rich diorganotellurides in presence of glutathione or sodium ascorbate as reducing agents)
- IT Reducing agents  
(for catalyst regeneration; stereoselective debromination of vic-dibromides catalyzed by electron-rich diorganotellurides in presence of glutathione or sodium ascorbate as reducing agents)
- IT Debromination  
Debromination  
(kinetics, stereoselective; stereoselective debromination of vic-dibromides catalyzed by electron-rich diorganotellurides in presence of glutathione or sodium ascorbate as reducing agents)
- IT Dehalogenation catalysts  
(stereoselective debromination catalysts; stereoselective debromination of vic-dibromides catalyzed by electron-rich diorganotellurides in presence of glutathione or sodium ascorbate as reducing agents)
- IT Tellurides  
RL: CAT (Catalyst use); USES (Uses)  
(stereoselective debromination of vic-dibromides catalyzed by electron-rich diorganotellurides in presence of glutathione or sodium ascorbate as reducing agents)
- IT Alkenes, preparation  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(stereoselective debromination of vic-dibromides catalyzed by electron-rich diorganotellurides in presence of glutathione or sodium ascorbate as reducing agents)
- IT Debromination  
(stereoselective; stereoselective debromination of vic-dibromides catalyzed by electron-rich diorganotellurides in presence of glutathione or sodium ascorbate as reducing agents)
- IT Cooperative phenomena  
(synergism, iodide-telluride catalyst system; stereoselective debromination of vic-dibromides catalyzed by electron-rich diorganotellurides in presence of glutathione or sodium ascorbate as reducing agents)
- IT Bromides, reactions  
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)  
(vic-dibromides; stereoselective debromination of vic-dibromides catalyzed by electron-rich diorganotellurides in presence of glutathione or sodium ascorbate as reducing agents)
- IT 311-28-4, Tetrabutylammonium iodide  
RL: CAT (Catalyst use); USES (Uses)  
(cocatalyst for threo dibromides; stereoselective debromination of vic-dibromides catalyzed by electron-rich diorganotellurides in presence of glutathione or sodium ascorbate as reducing agents)
- IT 63971-81-3P, Bis(4-dimethylaminophenyl)tellurium dibromide  
157067-92-0P 200395-89-7P, Dihexyltellurium dibromide  
RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(formation and reduction in catalytic cycle; stereoselective debromination

- of vic-dibromides catalyzed by electron-rich diorganotellurides in presence of glutathione or sodium ascorbate as reducing agents)
- IT 7631-90-5, Sodium bisulfite  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(less favorable reducing agent; stereoselective debromination of vic-dibromides catalyzed by electron-rich diorganotellurides in presence of glutathione or sodium ascorbate as reducing agents)
- IT 70-18-8, Glutathione, reactions 134-03-2, Sodium ascorbate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reducing agent; stereoselective debromination of vic-dibromides catalyzed by electron-rich diorganotellurides in presence of glutathione or sodium ascorbate as reducing agents)
- IT 21087-19-4, erythro-1,2-Dibromo-1-phenylpropane 22415-73-2, threo-2,3-Dibromopentane 28467-71-2, 1,2-Dibromodecane 34966-91-1 54305-88-3, 2,3-Dibromo-2-methylpentane 81602-61-1, erythro-5,6-Dibromodecane  
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)  
(relative kinetics; stereoselective debromination of vic-dibromides catalyzed by electron-rich diorganotellurides in presence of glutathione or sodium ascorbate as reducing agents)
- IT 59130-74-4, Bis(4-dimethylaminophenyl) telluride 157067-91-9, 2-(Dimethylaminomethyl)phenyl phenyl telluride 158734-99-7, Dihexyl telluride  
RL: CAT (Catalyst use); USES (Uses)  
(stereoselective debromination of vic-dibromides catalyzed by electron-rich diorganotellurides in presence of glutathione or sodium ascorbate as reducing agents)
- IT 7694-01-1, threo-2,3-Dibromo-4-methylpentane 13440-24-9, erythro-1,2-Dibromo-1,2-diphenylethane  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(stereoselective debromination of vic-dibromides catalyzed by electron-rich diorganotellurides in presence of glutathione or sodium ascorbate as reducing agents)
- IT 103-30-0P, trans-Stilbene 625-27-4P, 2-Methyl-2-pentene 627-20-3P 691-38-3P, cis-4-Methyl-2-pentene 768-49-0P, 2-Methyl-1-phenylpropene 872-05-9P, 1-Decene 873-66-5P, trans-1-Phenylpropene 7433-56-9P, trans-5-Decene  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(stereoselective debromination of vic-dibromides catalyzed by electron-rich diorganotellurides in presence of glutathione or sodium ascorbate as reducing agents)
- IT 200395-89-7P, Dihexyltellurium dibromide  
RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(formation and reduction in catalytic cycle; stereoselective debromination of vic-dibromides catalyzed by electron-rich diorganotellurides in presence of glutathione or sodium ascorbate as reducing agents)
- RN 200395-89-7 HCAPLUS  
CN Tellurium, dibromodihexyl-, (T-4)- (9CI) (CA INDEX NAME)



RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

=>

=> FILE REG

FILE 'REGISTRY' ENTERED AT 12:02:04 ON 25 OCT 2005  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
COPYRIGHT (C) 2005 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file  
provided by InfoChem.

STRUCTURE FILE UPDATES: 24 OCT 2005 HIGHEST RN 865981-77-7  
DICTIONARY FILE UPDATES: 24 OCT 2005 HIGHEST RN 865981-77-7

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

\*\*\*\*\*  
\*  
\* The CA roles and document type information have been removed from \*  
\* the IDE default display format and the ED field has been added, \*  
\* effective March 20, 2005. A new display format, IDERL, is now \*  
\* available and contains the CA role and document type information. \*  
\*  
\*\*\*\*\*

Structure search iteration limits have been increased. See HELP SLIMITS  
for details.

REGISTRY includes numerically searchable data for experimental and  
predicted properties as well as tags indicating availability of  
experimental property data in the original document. For information  
on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

=> FILE HCAPL

FILE 'HCAPLUS' ENTERED AT 12:02:07 ON 25 OCT 2005  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is  
held by the publishers listed in the PUBLISHER (PB) field (available  
for records published or updated in Chemical Abstracts after December  
26, 1996), unless otherwise indicated in the original publications.  
The CA Lexicon is the copyrighted intellectual property of the  
the American Chemical Society and is provided to assist you in searching  
databases on STN. Any dissemination, distribution, copying, or storing  
of this information, without the prior written consent of CAS, is  
strictly prohibited.

FILE COVERS 1907 - 25 Oct 2005 VOL 143 ISS 18  
FILE LAST UPDATED: 24 Oct 2005 (20051024/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.



This file contains CAS Registry Numbers for easy and accurate substance identification.

=> D QUE

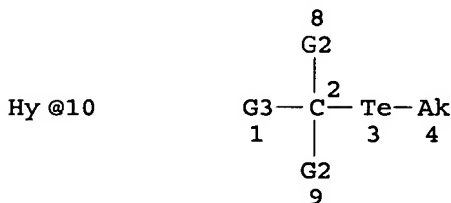
L1 STR  
Te^G2 G3~C~Te^G1  
@5 6 1 2 3 4

Cy @7

VAR G1=5/AK/7  
VAR G2=AK/7  
VAR G3=AK/7/CN  
NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
GGCAT IS UNS AT 7  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 7

STEREO ATTRIBUTES: NONE  
L2 4234 SEA FILE=REGISTRY SSS FUL L1  
L3 STR



*Subset search with  
more exact query  
for formula  
in claim*

Ak @11

VAR G2=H/11  
VAR G3=10/CN  
NODE ATTRIBUTES:  
CONNECT IS E1 RC AT 4  
CONNECT IS E1 RC AT 11  
DEFAULT MLEVEL IS ATOM  
GGCAT IS UNS AT 10  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 8

STEREO ATTRIBUTES: NONE  
L6 16 SEA FILE=REGISTRY SUB=L2 SSS FUL L3  
L7 16 SEA FILE=HCAPLUS ABB=ON L6

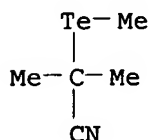
*16 compounds*

L8 1837 SEA FILE=HCAPLUS ABB=ON L2  
L9 24 SEA FILE=HCAPLUS ABB=ON L8(L) (INITIAT? OR CAT/RL) (L) PREP/RL  
L10 36 SEA FILE=HCAPLUS ABB=ON L7 OR L9  
L11 12 SEA FILE=HCAPLUS ABB=ON L10 NOT L9

=> D L11 1-12 BIB ABS IND HITSTR

*12 CA references which were not printed before*

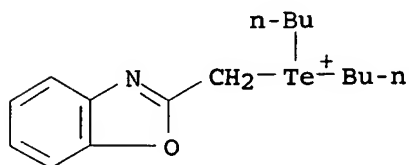
L11 ANSWER 1 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 2003:485156 HCAPLUS  
DN 139:197835  
TI Mechanism-Based Invention of High-Speed Living Radical Polymerization  
Using Organotellurium Compounds and Azo-Initiators  
AU Goto, Atsushi; Kwak, Yungwan; Fukuda, Takeshi; Yamago, Shigeru; Iida,  
Kazunori; Nakajima, Mitsuru; Yoshida, Jun-Ichi  
CS Institute for Chemical Research, Kyoto University, Kyoto, 611-0011, Japan  
SO Journal of the American Chemical Society (2003), 125(29), 8720-8721  
CODEN: JACSAT; ISSN: 0002-7863  
PB American Chemical Society  
DT Journal  
LA English  
AB Kinetic anal. reveals the existence of two competing pathways in the  
organotellurium-mediated living radical polymerization (TERP) at elevated temperature  
The rate-determining step, namely, the thermal dissociation process, could be  
bypassed by the addition of conventional radical initiators, and the polymerization  
proceeded at low temperature by the degenerative transfer-mediated polymerization The  
polymerization conditions are applicable to a variety of vinyl monomers, and the  
desired polymers form in a highly controlled manner.  
CC 35-4 (Chemistry of Synthetic High Polymers)  
ST organotellurium compd azo initiator high speed living radical polymn  
IT Polymerization  
Polymerization catalysts  
Polymerization kinetics  
(living, radical; mechanism-based invention of high-speed living  
radical polymerization using organotellurium compds. and azo-initiators)  
IT 78-67-1, AIBN 9003-53-6D, Polystyrene, methyltellanyl terminated  
15545-97-8, V-70 39198-34-0, VR-110 415679-75-3 474094-06-9  
582319-76-4  
RL: CAT (Catalyst use); USES (Uses)  
(mechanism-based invention of high-speed living radical polymerization using  
organotellurium compds. and azo-initiators)  
IT 9003-49-0P, n-Butyl acrylate homopolymer 9003-53-6P, Polystyrene  
9011-14-7P, PMMA 25014-41-9P, Acrylonitrile homopolymer 25189-55-3P,  
N-Isopropyl acrylamide homopolymer 25249-16-5P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(mechanism-based invention of high-speed living radical polymerization using  
organotellurium compds. and azo-initiators)  
IT 100-42-5, Styrene, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(monomer; mechanism-based invention of high-speed living radical  
polymerization using organotellurium compds. and azo-initiators)  
IT 582319-76-4  
RL: CAT (Catalyst use); USES (Uses)  
(mechanism-based invention of high-speed living radical polymerization using  
organotellurium compds. and azo-initiators)  
RN 582319-76-4 HCAPLUS  
CN Propanenitrile, 2-methyl-2-(methyltelluro)- (9CI) (CA INDEX NAME)



RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L11 ANSWER 2 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 2002:414099 HCAPLUS  
DN 137:262774  
TI A facile synthesis of benzoxazolyl cyclopropanes  
AU Shao, Jian Guo; Wang, Pei Yu; Zheng, Ming; Zhong, Qi  
CS Department of Chemistry, Yangzhou University, Yangzhou, 225002, Peop. Rep. China  
SO Chinese Chemical Letters (2002), 13(5), 407-409  
CODEN: CCLEE7; ISSN: 1001-8417  
PB Chinese Chemical Society  
DT Journal  
LA English  
OS CASREACT 137:262774  
AB 2'-Benzoxazolyl substituted cyclopropane derivs. were synthesized in yields of 73-89% from the cycloaddn. of telluronium ylides with chalcones.  
CC 24-2 (Alicyclic Compounds)  
ST cycloaddn telluronium ylide chalcone prepn benzoxazolyl cyclopropane  
IT Cycloaddition reaction  
(preparation of benzoxazolylcyclopropanes by cycloaddn. of telluronium ylides with chalcones)  
IT Ylides  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of benzoxazolylcyclopropanes by cycloaddn. of telluronium ylides with chalcones)  
IT 94-41-7, Chalcone 956-02-5, 1-(4-Chlorophenyl)-3-phenyl-2-propen-1-one 959-23-9, 1-(4-Methoxyphenyl)-3-phenyl-2-propen-1-one 1608-51-1 1774-66-9, 3-(4-Bromophenyl)-1-phenyl-2-propen-1-one 2965-63-1 4224-87-7, 3-(4-Methylphenyl)-1-phenyl-2-propen-1-one 19672-59-4, 1,3-Bis(4-Chlorophenyl)-2-propen-1-one 19672-61-8 38788-38-4, Dibutyl telluride 41014-43-1, 2-Chloromethylbenzoxazole 92873-00-2, 3-(4-Bromophenyl)-1-(4-methoxyphenyl)-2-propen-1-one  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of benzoxazolylcyclopropanes by cycloaddn. of telluronium ylides with chalcones)  
IT 144334-54-3P, (2-Benzoxazolylmethyl)dibutyltelluronium chloride  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation of benzoxazolylcyclopropanes by cycloaddn. of telluronium ylides with chalcones)  
IT 462653-15-2P 462653-16-3P 462653-17-4P 462653-18-5P 462653-19-6P 462653-20-9P 462653-21-0P 462653-22-1P 462653-23-2P 462653-24-3P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of benzoxazolylcyclopropanes by cycloaddn. of telluronium ylides with chalcones)  
IT 144334-54-3P, (2-Benzoxazolylmethyl)dibutyltelluronium chloride  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation of benzoxazolylcyclopropanes by cycloaddn. of telluronium ylides with chalcones)

RN 144334-54-3 HCAPLUS  
 CN Telluronium, (2-benzoxazolylmethyl)dibutyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 3 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1999:499952 HCAPLUS  
 DN 131:271939  
 TI Toward Novel Antioxidants: Preparation of Dihydrotellurophenes and Selenophenes by Alkyltelluride-Mediated Tandem SRN1/SHi Reactions  
 AU Engman, Lars; Laws, Melissa J.; Malmstroem, Jonas; Schiesser, Carl H.; Zugaro, Lisa M.  
 CS Institute of Chemistry Department of Organic Chemistry, Uppsala University, Uppsala, S-751 21, Swed.  
 SO Journal of Organic Chemistry (1999), 64(18), 6764-6770  
 CODEN: JOCEAH; ISSN: 0022-3263  
 PB American Chemical Society  
 DT Journal  
 LA English  
 AB Reaction of 1-(2-iodophenyl)-1-methyloxirane (12) with 2 equiv of Na n-butyrtellurolate (BuTeNa), generated by the Na borohydride reduction of di-Bu ditelluride, in THF, affords 2,3-dihydro-3-hydroxy-3-methylbenzo[b]tellurophene (13) in 62% yield, together with a small quantity of 1-(n-butyrtelluro)-2-phenyl-2-propanol (27). This transformation presumably involves a tandem SRN1/SHi sequence. Similar reactions of 1-(benzylseleno)-2-phenyl-2-propanol (5a, R = Me) and 1-allyloxy-2-iodobenzene (15) afforded 2,3-dihydro-3-hydroxy-3-methylbenzo[b]selenophene (17, 74%), and 3-(n-butyrtelluro)methyl-2,3-dihydrobenzo[b]furan (18, 50%), resp. Li alkyltellurolates, generated by direct Te insertion into the required alkyl lithium, or sec-Bu or tert-Bu substitution on Te provide product distributions similar to those observed for reactions involving BuTeNa. Li or Na phenyltellurolate returned only starting materials from these reaction mixts. The 2-[2-(n-butyrtelluro)-1-hydroxy-1-methyl]ethylphenyl radical (14) is estimated to cyclize with  $k_c = 5 + 108 \text{ s}^{-1}$  at 25°. The tandem SRN1/SHi sequence was applied to the preparation of the antioxidant analogs, 5-hydroxy-2,3-dihydrobenzo[b]tellurophene and selenophene.  
 CC 29-8 (Organometallic and Organometalloidal Compounds)  
 ST selenophene alkyltelluride mediated tandem nucleophilic addn; tellurophene alkyltelluride mediated tandem nucleophilic addn  
 IT Radicals, preparation  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (aryl; kinetics of radical ring closure reaction of aryl selenyl and

tellanyl radicals with sodium butyltellurate)

IT Antioxidants  
Cyclization  
Insertion reaction  
(synthesis of antioxidants via dihydrotellurophenes and selenophenes by alkyltelluride-mediated tandem nucleophilic reactions)

IT 18162-48-6, tert-Butylchlorodimethylsilane  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(condensation reaction with hydroxyphenylacetate)

IT 22446-38-4, Ethyl 3-hydroxyphenylacetate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(hydroxy group-protection and reduction of)

IT 24892-63-5 41876-99-7 72525-47-4  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(kinetics of radical ring closure reaction with sodium butyltellurate)

IT 144427-99-6  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(kinetics of reaction with sodium butyltellurate)

IT 245442-85-7  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(kinetics of ring closure reaction of)

IT 245442-92-6P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and cyclization reaction in the presence of selenium and tellurium reagents to give benzoselenophene and benzotellurophene products)

IT 245442-93-7P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and cyclization reaction in the presence of tellurium reagents to give benzotellurophene product)

IT 245442-94-8P 245442-95-9P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and desilylation reaction)

IT 245442-84-6  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation and iodination of)

IT 245442-83-5P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and iodination reaction of)

IT 160701-58-6  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation and iodination reactions of)

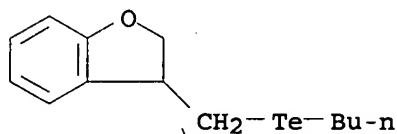
IT 144428-00-2P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and reaction with sodium butyltellurate)

IT 245442-82-4P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and reduction of)

IT 272-35-5P, Benzo[b]tellurophene 26059-40-5P 35783-95-0P 72925-56-5P  
200068-17-3P 200068-18-4P 245442-86-8P 245442-87-9P  
245442-88-0P 245442-89-1P 245442-90-4P 245442-91-5P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

IT 144428-06-8

RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction with sodium butyltellurate)  
IT 2966-50-9, Silver trifluoroacetate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reagent with iodine for the iodination of aryl ether)  
IT 77129-69-2, Dibutyl ditelluride  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(sequential metalation and reactions with aryl iodides)  
IT 245442-86-8P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)  
RN 245442-86-8 HCAPLUS  
CN Benzofuran, 3-[(butyltelluro)methyl]-2,3-dihydro- (9CI) (CA INDEX NAME)



RE.CNT 42      THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 4 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 1994:655921 HCAPLUS  
DN 121:255921  
TI Generation of allyl- and benzyllithiums from the corresponding halides by  
the aid of lithium-tellurium exchange reactions  
AU Kanda, Takahiro; Kato, Shinzi; Sugino, Takushi; Kambe, Nobuaki; Sonoda,  
Noboru  
CS Department of Chemistry, Faculty of Engineering, Gifu University, Yanagido  
1-1, Gifu, 501-11, Japan  
SO Journal of Organometallic Chemistry (1994), 473(1-2), 71-83  
CODEN: JORCAI; ISSN: 0022-328X  
DT Journal  
LA English  
OS CASREACT 121:255921  
AB A variety of allyl- and benzyllithiums were prepared by lithium-tellurium  
exchange reactions of allylic and benzylic tellurides generated in situ  
from the corresponding halides. The produced organolithiums were trapped  
successfully with electrophiles such as aldehydes, ketones, and  
trimethylchlorosilane. Benzyllithiums having an alkyl, alkoxy, fluoro,  
chloro, or cyano substituent(s) on their aromatic ring were generated  
efficiently in THF. Benzylic tellurides bearing a bromo or iodo  
substituent afforded a mixture of products under similar conditions arising  
from the competing lithium-halogen exchange and/or the displacement of the  
halogen atom with organolithiums used, but they were converted selectively  
to benzyllithiums in ether without affecting halogen substituents on the  
benzene ring. Several allyllithiums including dilithioisobutene were  
generated from allylic halides in a similar way via allylic tellurides.  
Wurtz-type coupling was negligible in any reactions examined  
CC 29-8 (Organometallic and Organometalloidal Compounds)  
Section cross-reference(s): 21  
ST allyllithium generation reaction electrophile; benzyllithium generation  
reaction electrophile; lithium tellurium exchange allyl benzyl; telluride  
allylic benzylic lithium exchange; electrophile reaction allyllithium  
benzyllithium  
IT Aldehydes, reactions

Ketones, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with allyl- and benzyllithiums)

IT Metalation

(trans-, of allylic and benzylic tellurides with lithium)

IT 158526-73-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)

(preparation and transmetalation of, with lithium)

IT 606-97-3P 611-14-3P 614-29-9P 13397-96-1P 18282-40-1P  
 19829-56-2P 23092-23-1P 27644-02-6P 27644-03-7P 38610-96-7P  
 51554-95-1P 52922-10-8P 52922-19-7P 59485-34-6P 71370-00-8P  
 71521-86-3P 75851-77-3P 99857-93-9P 107054-71-7P 110349-15-0P  
 141819-15-0P 141819-16-1P 141819-17-2P 141819-18-3P 158526-50-2P  
 158526-51-3P 158526-52-4P 158526-53-5P 158526-54-6P 158526-55-7P  
 158526-56-8P 158526-57-9P 158526-58-0P 158526-74-0P 158526-75-1P  
 158526-76-2P 158526-77-3P 158526-78-4P 158526-79-5P 158526-80-8P  
 158526-81-9P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

IT 110935-05-2P 141819-11-6P 141819-12-7P 141819-13-8P 141819-14-9P  
 158526-59-1P 158526-60-4P 158526-61-5P 158526-62-6P  
 158526-63-7P 158526-64-8P 158526-65-9P 158526-66-0P 158526-67-1P  
 158526-68-2P 158526-69-3P 158526-70-6P 158526-71-7P 158526-72-8P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation, transmetalation with lithium, and subsequent reaction of, with electrophiles)

IT 75-97-8, Pinacolone 100-52-7, Benzaldehyde, reactions 119-61-9,  
 Benzophenone, reactions 123-72-8, Butyraldehyde 6728-26-3

RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with allyl- and benzyllithiums)

IT 100-39-0, Benzyl bromide 104-81-4, p-Xylyl bromide 104-83-6,  
 4-Chlorobenzyl chloride 459-46-1, 4-Fluorobenzyl bromide 563-47-3  
 585-71-7, (1-Bromoethyl)benzene 589-15-1, 4-Bromobenzyl bromide  
 611-19-8, 2-Chlorobenzyl chloride 823-78-9, 3-Bromobenzyl bromide  
 824-94-2, 4-Methoxybenzyl chloride 870-63-3 1871-57-4 3433-80-5,  
 2-Bromobenzyl bromide 4894-61-5 17201-43-3, 4-Cyanobenzyl bromide  
 22115-41-9, 2-Cyanobenzyl bromide 23468-31-7 28188-41-2, 3-Cyanobenzyl  
 bromide 59473-45-9, 2-Iodobenzyl chloride

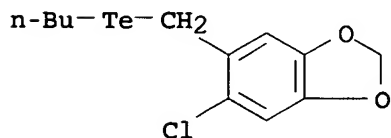
RL: RCT (Reactant); RACT (Reactant or reagent)  
(tellurylation of)

IT 158526-61-5P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation, transmetalation with lithium, and subsequent reaction of, with electrophiles)

RN 158526-61-5 HCAPLUS

CN 1,3-Benzodioxole, 5-[(butyltelluro)methyl]-6-chloro- (9CI) (CA INDEX  
NAME)

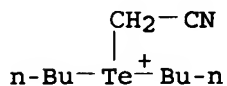
L11 ANSWER 5 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1994:298774 HCAPLUS

KATHLEEN FULLER EIC1700 REMSEN 4B28 571/272-2505

DN 120:298774  
TI 125Te Nuclear Magnetic Resonance Study and X-ray Crystal Structures of  
Organotelluronium Salts  
AU Zhou, Zhang-Lin; Huang, Yao-Zeng; Tang, Yong; Chen, Zhao-Huan; Shi,  
Li-Ping; Jin, Xiang-Lin; Yang, Qing-Chuan  
CS Shanghai Institute of Organic Chemistry, Academia Sinica, Shanghai,  
200032, Peop. Rep. China  
SO Organometallics (1994), 13(5), 1575-81  
CODEN: ORGND7; ISSN: 0276-7333  
DT Journal  
LA English  
AB The proton-noise-decoupled tellurium-125 NMR spectra of a series of  
organotelluronium salts  $R_2Te+R'$  X- are reported, including the precursors  
of nonstabilized, semistabilized, and stabilized telluronium ylides [R =  
n-Bu, iso-Bu, Me, and Ph; R' =  $C_nH_{2n+1}$  (n = 1-6), Ph,  $CH_2CH:CH_2$ ,  
 $CH_2C.tplbond.CSiMe_3$ ,  $CH_2CH:CHSiMe_3$ ,  $CH_2CH:CHCO_2Et$ ,  $CH_2CO_2CH_3$ ,  $CH_2CO_2C_2H_5$ ,  
 $CH_2CONHBu-i$ ,  $CH_2CON(CH_2)_3CH_2$ ,  $CH_2CON(CH_2)_4CH_2$ ,  $CH_2CN$ ; X = Cl, Br, I, and  
BPh<sub>4</sub>]. The 125Te NMR chemical shifts are measured in  $CDCl_3$ , DMSO-d<sub>6</sub>, or  
solution relative to neat  $Me_2Te$  and range from 418 ppm for  $(CH_3)_3Te+ I-$  to  
675 ppm for  $(C_6H_5)_2Te+CH_3 -BPh_4$ . The coupling consts. of Te-C and Te-H of  
several telluronium salts are also reported. Furthermore, X-ray crystal  
structures of  $(CH_3)_2Te+CH_3 I-$ ,  $i-Bu_2Te+C_6H_5 Br-$ , and  $(C_6H_5)_2Te+CH_3 -BPh_4$   
are reported.  
CC 29-8 (Organometallic and Organometalloidal Compounds)  
Section cross-reference(s): 75  
ST tellurium 125 NMR organotelluronium salt; telluronium salt tellurium 125  
NMR; crystal structure organotelluronium salt; mol structure  
organotelluronium salt  
IT Spin, nuclear coupling  
(carbon-13- and proton-tellurium-125, in organotelluronium salts)  
IT Crystal structure  
Molecular structure  
(of organotelluronium salts)  
IT Nuclear magnetic resonance  
(of organotelluronium salts, tellurium-125)  
IT 41384-85-4P, Telluronium, dibutylmethyl-, iodide 111873-48-4P  
111873-50-8P, Telluronium, dibutyl(cyanomethyl)-, chloride  
113449-25-5P 132356-17-3P, Telluronium, bis(2-methylpropyl)(2-propenyl)-  
, bromide 133505-33-6P 134988-30-0P, Telluronium,  
dibutyl(phenylmethyl)-, bromide 142907-33-3P, Telluronium,  
(cyanomethyl)bis(2-methylpropyl)-, chloride 142907-34-4P, Telluronium,  
bis(2-methylpropyl)(2-propenyl)-, chloride 142907-36-6P,  
Telluronium, dibutyl(cyanomethyl)-, bromide 142907-39-9P, Telluronium,  
bis(2-methylpropyl)[3-(trimethylsilyl)-2-propenyl]-, bromide  
142907-41-3P, Telluronium, dibutyl(cyanomethyl)-, iodide  
142907-42-4P, Telluronium, bis(2-methylpropyl)(2-propenyl)-, iodide  
142907-43-5P, Telluronium, tributyl-, iodide 142907-44-6P, Telluronium,  
dibutylhexyl-, iodide 142907-46-8P 142907-48-0P 142907-52-6P  
142907-54-8P 142907-56-0P 143798-87-2P, Telluronium,  
bis(2-methylpropyl)[3-(trimethylsilyl)-2-propynyl]-, bromide  
154667-16-0P 154667-17-1P 154667-18-2P 154667-19-3P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and tellurium-125 NMR spectra of)  
IT 18987-26-3P, Telluronium, trimethyl-, iodide 130318-72-8P  
142907-35-5P, Telluronium, bis(2-methylpropyl)phenyl-, bromide  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation, crystal structure, and tellurium-125 NMR spectra of)  
IT 12586-59-3  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(spin, carbon-13- and proton-tellurium-125, in organotelluronium salts)

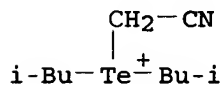


IT 111873-50-8P, Telluronium, dibutyl(cyanomethyl)-, chloride  
 142907-33-3P, Telluronium, (cyanomethyl)bis(2-methylpropyl)-,  
 chloride 142907-36-6P, Telluronium, dibutyl(cyanomethyl)-,  
 bromide 142907-41-3P, Telluronium, dibutyl(cyanomethyl)-, iodide  
 142907-46-8P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and tellurium-125 NMR spectra of)  
 RN 111873-50-8 HCAPLUS  
 CN Telluronium, dibutyl(cyanomethyl)-, chloride (9CI) (CA INDEX NAME)



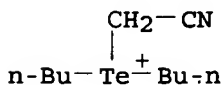
● Cl<sup>-</sup>

RN 142907-33-3 HCAPLUS  
 CN Telluronium, (cyanomethyl)bis(2-methylpropyl)-, chloride (9CI) (CA INDEX NAME)



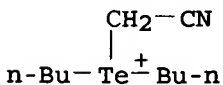
● Cl<sup>-</sup>

RN 142907-36-6 HCAPLUS  
 CN Telluronium, dibutyl(cyanomethyl)-, bromide (9CI) (CA INDEX NAME)



● Br<sup>-</sup>

RN 142907-41-3 HCAPLUS  
 CN Telluronium, dibutyl(cyanomethyl)-, iodide (9CI) (CA INDEX NAME)

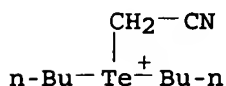


● I<sup>-</sup>

RN 142907-46-8 HCAPLUS  
CN Telluronium, dibutyl(cyanomethyl)-, tetraphenylborate(1-) (9CI) (CA INDEX NAME)

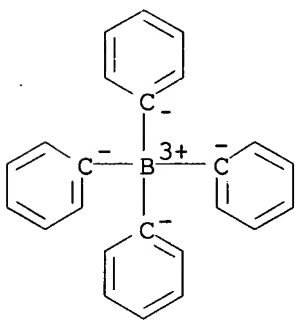
CM 1

CRN 142907-45-7  
CMF C10 H20 N Te

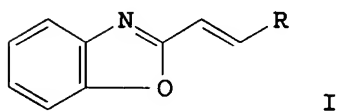


CM 2

CRN 4358-26-3  
CMF C24 H20 B  
CCI CCS



L11 ANSWER 6 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 1992:612375 HCAPLUS  
DN 117:212375  
TI A facile synthesis of 2-(2-substituted vinyl)benzoxazoles  
AU Shao, Jianguo; Zhong, Qi; Liao, Haiping; Liu, Changqing; Zhou, Jingfeng  
CS Dep. Chem., Yangzhou Teach. Coll., Yangzhou, Peop. Rep. China  
SO Organic Preparations and Procedures International (1992), 24(5), 520-2  
CODEN: OPPIAK; ISSN: 0030-4948  
DT Journal  
LA English  
OS CASREACT 117:212375  
GI



AB The title compds. I (R = Ph, substituted Ph, 2-furfuryl) were prepared in 56-92% yield by treating 2-(chloromethyl)benzoxazole with Bu<sub>2</sub>Te followed

by RCHO.

CC 28-6 (Heterocyclic Compounds (More Than One Hetero Atom))

ST benzoxazole vinyl

IT Condensation reaction  
(of benzoxazolylmethyldibutyltelluronium chloride with aldehydes,  
(2-substituted vinyl)benzoxazoles from)

IT Aldehydes, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with benzoxazolylmethyldibutyltelluronium chloride,  
(2-substituted vinyl)benzoxazoles from)

IT 3271-27-0P 59066-62-5P 71907-23-8P 71907-25-0P 71907-26-1P  
144154-58-5P 144154-59-6P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

IT 144334-54-3  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with aromatic aldehydes, (2-substituted vinyl)benzoxazole  
from)

IT 98-01-1, 2-Furfuraldehyde, reactions 100-52-7, Benzaldehyde, reactions  
104-87-0, 4-Methylbenzaldehyde 104-88-1, 4-Chlorobenzaldehyde, reactions  
123-11-5, 4-Methoxybenzaldehyde, reactions 459-57-4,  
4-Fluorobenzaldehyde 555-16-8, 4-Nitrobenzaldehyde, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with benzoxazolylmethyldibutyltelluronium chloride,  
(2-substituted vinyl)benzoxazole from)

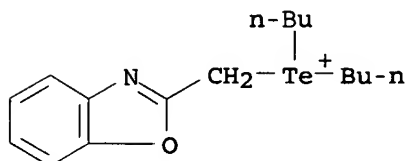
IT 41014-43-1, 2-(Chloromethyl)benzoxazole  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with dibutyltelluride and aromatic aldehydes, (substituted  
vinyl)benzoxazoles from)

IT 38788-38-4  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reactions of, with (chloromethyl)benzoxazole)

IT 144334-54-3  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with aromatic aldehydes, (2-substituted vinyl)benzoxazole  
from)

RN 144334-54-3 HCAPLUS

CN Telluronium, (2-benzoxazolylmethyl)dibutyl-, chloride (9CI) (CA INDEX  
NAME)



● Cl<sup>-</sup>

L11 ANSWER 7 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN

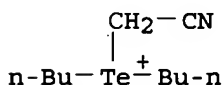
AN 1992:490417 HCAPLUS

DN 117:90417

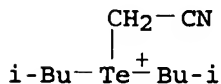
TI Fast-atom-bombardment mass spectra of telluronium salts

AU Fu, Guixiang; Zhou, Zhanglin; Yu, Lu; Huang, Yaozeng

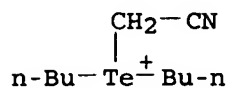
CS Shanghai Inst. Org. Chem., Acad. Sin., Shanghai, 200032, Peop. Rep. China  
 SO Organic Mass Spectrometry (1992), 27(6), 695-8  
 CODEN: ORMSBG; ISSN: 0030-493X  
 DT Journal  
 LA English  
 AB The fast atom bombardment (FAB) mass spectra of 28 telluronium salts  $R_2Te+R'X^-$  were studied. The spectra exhibit the intact cation ( $C^+$ ) and cluster ions ( $[M + C]^+$ ). The principal fragment ions in the FAB mass spectra of telluronium salts are  $[RTe]^+$ ,  $[R_2Te]^+$ ,  $[R_2Te-H]^+$ ,  $[RTeR']^+$ , and  $[RTeR' + H]^+$ . When the anion was  $[BPh_4]^-$ , interesting cluster ions such as  $[M + C-BPh_3]^+$  appeared.  
 CC 29-8 (Organometallic and Organometalloidal Compounds)  
 Section cross-reference(s): 22  
 ST mass spectra telluronium salt FAB  
 IT Mass spectra  
 (of telluronium salts, by fast-atom-bombardment)  
 IT 18987-26-3 41384-85-4 111873-48-4 111873-49-5 111873-50-8  
 113449-25-5 130318-72-8 132356-17-3 133505-33-6 134988-30-0  
 142907-33-3 142907-34-4 142907-35-5 142907-36-6  
 142907-37-7 142907-38-8 142907-39-9 142907-40-2 142907-41-3  
 142907-42-4 142907-43-5 142907-44-6 142907-46-8  
 142907-48-0 142907-50-4 142907-52-6 142907-54-8 142907-56-0  
 RL: PRP (Properties)  
 (fast-atom-bombardment mass spectrum of)  
 IT 111873-50-8 142907-33-3 142907-36-6  
 142907-41-3 142907-46-8  
 RL: PRP (Properties)  
 (fast-atom-bombardment mass spectrum of)  
 RN 111873-50-8 HCAPLUS  
 CN Telluronium, dibutyl(cyanomethyl)-, chloride (9CI) (CA INDEX NAME)

● Cl<sup>-</sup>

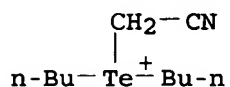
RN 142907-33-3 HCAPLUS  
 CN Telluronium, (cyanomethyl)bis(2-methylpropyl)-, chloride (9CI) (CA INDEX NAME)

● Cl<sup>-</sup>

RN 142907-36-6 HCAPLUS  
 CN Telluronium, dibutyl(cyanomethyl)-, bromide (9CI) (CA INDEX NAME)

● Br<sup>-</sup>

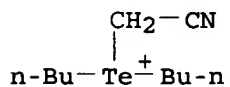
RN 142907-41-3 HCAPLUS  
 CN Telluronium, dibutyl(cyanomethyl)-, iodide (9CI) (CA INDEX NAME)

● I<sup>-</sup>

RN 142907-46-8 HCAPLUS  
 CN Telluronium, dibutyl(cyanomethyl)-, tetraphenylborate(1-) (9CI) (CA INDEX NAME)

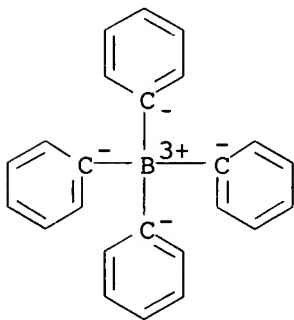
CM 1

CRN 142907-45-7  
 CMF C10 H20 N Te



CM 2

CRN 4358-26-3  
 CMF C24 H20 B  
 CCI CCS



L11 ANSWER 8 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 1991:582776 HCAPLUS  
DN 115:182776  
TI Synthetic application of elemento-organic compounds of the 15th and 16th Groups. 92. Novel reaction of dibutyl(cyanomethyl)telluronium chloride with carbonyl compounds mediated by organolithium reagents: highly efficient synthesis of  $\beta$ -hydroxy nitriles  
AU Zhou, Zhanglin; Shi, Linlan; Huang, Yao Zeng  
CS Shanghai Inst. Org. Chem., Acad. Sin., Shanghai, 200032, Peop. Rep. China  
SO Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1991), (8), 1931-3  
CODEN: JCPRB4; ISSN: 0300-922X  
DT Journal  
LA English  
OS CASREACT 115:182776  
AB Dibutyl(cyanomethyl)telluronium chloride, a precursor of stabilized telluronium ylides, after being treated with organolithium reagents reacted with carbonyl compds. to afford  $\beta$ -hydroxy nitriles instead of  $\alpha,\beta$ -unsatd. nitriles in excellent yields. Thus, reaction of  $\text{Bu}_2\text{Te}+\text{CH}_2\text{CNCI}^-$  with BuLi in THF-hexane followed by treatment with PhCHO and hydrolysis gave 95% PhC(OH)CH<sub>2</sub>CN.  
CC 25-20 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds) Section cross-reference(s): 23  
ST dibutylcyanomethyltelluronium chloride prepn lithiation reaction carbonyl; carbonyl compd reaction lithiated cyanomethyltelluronium chloride; hydroxy nitrile; tellurium ylide prepn reaction carbonyl compd  
IT Carbonyl compounds, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with lithiated dibutyl(cyanomethyl)telluronium chloride, hydroxynitriles by)  
IT Nitriles, preparation  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(hydroxy, preparation of, by reaction of lithiated dibutyl(cyanomethyl)telluronium chloride with carbonyl compds.)  
IT Ylides  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(telluronium, preparation and reaction of, with carbonyl compds., hydroxynitriles by)  
IT 111873-50-8P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and sequential reaction of, with organolithium compound and carbonyl compds., hydroxynitriles by)  
IT 38788-38-4, Dibutyl telluride  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with chloroacetonitrile)  
IT 107-14-2, Chloroacetonitrile  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with di-Bu telluride)  
IT 109-72-8, Butyllithium, reactions 591-51-5, Phenyllithium 917-54-4, Methyllithium 2417-95-0, 4-Methylphenyllithium  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with dibutyl(cyanomethyl)telluronium chloride)  
IT 66-25-1, Hexanal 66-99-9, 2-Naphthylcarboxaldehyde 89-98-5, 2-Chlorobenzaldehyde 98-86-2, Methyl phenyl ketone, reactions 100-10-7, 4-Dimethylaminobenzaldehyde 100-52-7, Benzaldehyde, reactions 104-88-1, 4-Chlorobenzaldehyde, reactions 119-61-9, Diphenyl ketone, reactions 120-57-0, 1,3-Benzodioxole-5-carboxaldehyde 123-11-5, 4-Methoxybenzaldehyde, reactions 123-72-8, Butanal 459-57-4,

4-Fluorobenzaldehyde 613-45-6, 2,4-Dimethoxybenzaldehyde 1122-91-4,  
 4-Bromobenzaldehyde 2043-61-0, Cyclohexylcarboxaldehyde 3531-23-5  
 14368-31-1 17190-29-3 24951-13-1 51241-26-0 51241-27-1  
 51241-28-2 64250-18-6 65984-59-0 84466-38-6 84466-39-7  
 84466-41-1 126678-67-9 128104-67-6 136568-65-5

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with lithiated dibutyl(cyanomethyl)telluronium chloride,  
 hydroxynitrile by)

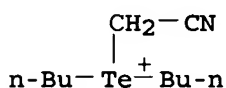
IT 111873-50-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)

(preparation and sequential reaction of, with organolithium compound and  
 carbonyl compds., hydroxynitriles by)

RN 111873-50-8 HCAPLUS

CN Telluronium, dibutyl(cyanomethyl)-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

L11 ANSWER 9 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1991:535831 HCAPLUS

DN 115:135831

TI Studies on the reaction of organotelluronium salts

AU Zhong, Qi; Cheng, Yulong; Shao, Jianguo; Liu, Changqing

CS Chem. Dep., Yangzhou Teach. Coll., Yangzhou, 225002, Peop. Rep. China

SO Chinese Chemical Letters (1991), 2(1), 51-4

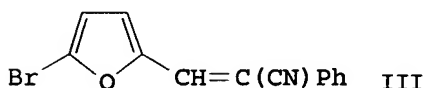
CODEN: CCLLEE7; ISSN: 1001-8417

DT Journal

LA English

OS CASREACT 115:135831

GI



AB RR1CHBr (R = Ph, R1 = cyano, CO<sub>2</sub>Et; RR1CH = 9-fluorenyl,  
 2-nitro-9-fluorenyl) reacted with Bu<sub>2</sub>Te in Et<sub>2</sub>O to give Bu<sub>2</sub>Te+CHRR1 Br-  
 (I). Further, I reacted with aromatic aldehydes, cinnamaldehydes, and  
 5-bromo-2-furancarboxaldehyde (II) to give alkenes and dienes. Thus,  
 Bu<sub>2</sub>Te+CHPhCN Br- was treated with II in the presence of K<sub>2</sub>CO<sub>3</sub> and a trace  
 of HCONH<sub>2</sub> in MeCN to give 66% the nitrile III.

CC 27-6 (Heterocyclic Compounds (One Hetero Atom))

ST organotelluronium salt prepn condensation aldehyde; alkene; diene;  
 acrylonitrile bromofurylphenyl; butylcyanobenzyltelluronium bromide prepn  
 condensation aldehyde; butyl telluride alkylation brominated active  
 methylene

IT Aldehydes, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

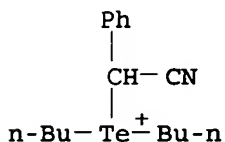
- (condensation of, with organotelluronium salts)
- IT Condensation reaction  
(of organotelluronium salts with aldehydes)
- IT Alkenes, preparation  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of, via condensation reaction of organotelluronium salts with aldehydes)
- IT Alkadienes  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of, via condensation reaction of organotelluronium salts with cinnamaldehydes)
- IT 89-98-5, 2-Chlorobenzaldehyde 1504-75-2, p-Methylcinnamaldehyde  
1899-24-7, 5-Bromo-2-furancarboxaldehyde  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(condensation of, with cyanobenzyltelluronium salt)
- IT 135-02-4, 2-Anisaldehyde  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(condensation of, with nitrofluorenyltelluronium salt)
- IT 99-61-6, 3-Nitrobenzaldehyde 100-10-7, 4-(Dimethylamino)benzaldehyde  
100-52-7, Benzaldehyde, reactions 104-55-2, Cinnamaldehyde 104-87-0  
104-88-1, 4-Chlorobenzaldehyde, preparation 123-11-5, 4-Anisaldehyde,  
reactions 459-57-4, 4-Fluorobenzaldehyde 552-89-6, 2-Nitrobenzaldehyde  
555-16-8, 4-Nitrobenzaldehyde, preparation 587-04-2,  
3-Chlorobenzaldehyde 770-23-0, m-Chlorocinnamaldehyde 1075-77-0,  
p-Chlorocinnamaldehyde 1122-91-4, 4-Bromobenzaldehyde 1466-88-2,  
o-Nitrocinnamaldehyde 1504-74-1, o-Methoxycinnamaldehyde 1504-76-3,  
m-Nitrocinnamaldehyde 1734-79-8, p-Nitrocinnamaldehyde 1963-36-6,  
p-Methoxycinnamaldehyde  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(condensation of, with organotelluronium salts)
- IT 136036-60-7P 136036-61-8P 136036-62-9P 136062-09-4P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and condensation of, with aldehydes)
- IT 574-47-0P 1229-71-6P 1230-55-3P 1836-87-9P 2311-84-4P 2871-85-4P  
2871-86-5P 2871-87-6P 4421-51-6P 6114-57-4P 6443-79-4P  
6939-97-5P 6954-71-8P 16551-12-5P 16551-13-6P 16551-15-8P  
19319-30-3P 19319-33-6P 19319-35-8P 19393-14-7P 22161-41-7P  
23000-25-1P 25125-29-5P 32174-26-8P 37629-63-3P 37629-64-4P  
42172-48-5P 62297-44-3P 62297-46-5P 67366-26-1P 69700-59-0P  
73151-37-8P 74279-37-1P 74279-39-3P 83527-92-8P 132843-57-3P  
136036-40-3P 136036-41-4P 136036-42-5P 136036-43-6P 136036-44-7P  
136036-45-8P 136036-46-9P 136036-47-0P 136036-48-1P 136036-49-2P  
136036-50-5P 136036-51-6P 136036-52-7P 136036-53-8P 136036-54-9P  
136036-55-0P 136036-56-1P 136036-57-2P 136036-58-3P 136036-59-4P  
136036-63-0P 136036-64-1P 136036-65-2P 136036-66-3P 136036-67-4P  
136036-68-5P 136036-69-6P 136036-70-9P 136036-71-0P 136036-72-1P  
137113-09-8P 137113-10-1P 137113-11-2P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)
- IT 38788-38-4, Dibutyl telluride  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with brominated active methylene compds., telluronium salts from)
- IT 1940-57-4, 9-Bromofluorene 2882-19-1, Ethyl  $\alpha$ -bromophenylacetate  
5798-79-8,  $\alpha$ -Bromobenzyl cyanide 53172-79-5, 9-Bromo-2-nitrofluorene  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with di-Bu telluride, telluronium salt from)
- IT 136036-60-7P



RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and condensation of, with aldehydes)

RN 136036-60-7 HCAPLUS

CN Telluronium, dibutyl(cyanophenylmethyl)-, bromide (9CI) (CA INDEX NAME)



● Br<sup>-</sup>

L11 ANSWER 10 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1991:206702 HCAPLUS

DN 114:206702

TI Organotellurium ylide reactions. Part II. Synthesis of 2,4-conjugated unsaturated ketones, esters and nitriles

AU Zhong, Qi; Liu, Changqing; Shao, Jianguo

CS Dep. Chem., Yangzhou Norm. Coll., Yangzhou, 225002, Peop. Rep. China

SO Youji Huaxue (1991), 11(1), 58-63

CODEN: YCHHDX; ISSN: 0253-2786

DT Journal

LA Chinese

OS CASREACT 114:206702

AB A convenient procedure for the synthesis of 2,4-conjugated unsatd. ketones, esters and nitriles by the condensation of telluronium salts Bu<sub>2</sub>Te+CH<sub>2</sub>RX- (R = Bz, substituted Bz; X = Br, Cl) with R<sub>1</sub>CH:CHCHO (R<sub>1</sub> = Ph, substituted Ph) is reported. The yields are 85 .apprx. 96%. All products are the E,E-isomers as confirmed by their m.p., IR and <sup>1</sup>H NMR spectra. Effect of solvents and bases on the condensation are studied. The reaction is likely to proceed with telluronium ylides as intermediates.

CC 25-20 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)  
Section cross-reference(s): 21, 29

ST ketone conjugated unsatd; ester conjugated unsatd; nitrile conjugated unsatd; telluronium ylide condensation stereoselective cinnamaldehyde

IT Ketones, preparation

Nitriles, preparation

RL: SPN (Synthetic preparation); PREP (Preparation)

(2,4-conjugated, preparation of, from cinnamaldehydes and telluronium salts)

IT Stereochemistry

(of condensation of telluronium ylides with cinnamaldehydes)

IT Condensation reaction

(of telluronium ylides with cinnamaldehydes, stereochem. of)

IT Ylides

RL: RCT (Reactant); RACT (Reactant or reagent)

(telluronium, condensation of, with cinnamaldehydes, stereochem. of)

IT Carboxylic acids, esters

RL: SPN (Synthetic preparation); PREP (Preparation)

(conjugated, esters, preparation of, from cinnamaldehydes and telluronium salts)

IT 14371-10-9 24680-50-0 49678-02-6 49678-08-2 56578-35-9

66894-06-2

RL: RCT (Reactant); RACT (Reactant or reagent)  
(condensation of, with telluronium salt)

IT 111873-49-5P 111873-50-8P 133505-33-6P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and reaction of, with  $\alpha,\beta$ -unsatd. aldehydes)

IT 16913-46-5P 29179-25-7P 40414-46-8P 40414-48-0P 40414-49-1P  
53649-66-4P 90812-15-0P 133505-12-1P 133505-13-2P 133505-14-3P  
133505-15-4P 133505-16-5P 133505-17-6P 133505-18-7P 133505-19-8P  
133505-20-1P 133505-21-2P 133505-22-3P 133505-23-4P 133505-24-5P  
133505-25-6P 133505-26-7P 133505-27-8P 133505-28-9P 133505-29-0P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

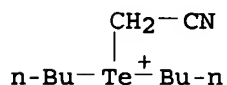
IT 70-11-1,  $\alpha$ -Bromoacetophenone 105-36-2, Ethyl bromoacetate  
107-14-2, Chloroacetonitrile  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with dibutyltellurium)

IT 133505-30-3 133505-31-4 133505-32-5  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with  $\alpha,\beta$ -unsatd. aldehyde)

IT 38788-38-4  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with  $\alpha$ -bromoacetophenone)

IT 111873-50-8P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and reaction of, with  $\alpha,\beta$ -unsatd. aldehydes)

RN 111873-50-8 HCAPLUS  
CN Telluronium, dibutyl(cyanomethyl)-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

L11 ANSWER 11 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 1988:549016 HCAPLUS  
DN 109:149016  
TI Synthetic applications of organotellurium compounds. 1. A facile  
synthesis of  $\alpha,\beta$ -unsaturated esters, ketones, and nitriles  
AU Huang, Xian; Xie, Linghong; Wu, Hong  
CS Dep. Chem., Hangzhou Univ., Hngzhou, Peop. Rep. China  
SO Journal of Organic Chemistry (1988), 53(20), 4862-4  
CODEN: JOCEAH; ISSN: 0022-3263  
DT Journal  
LA English  
OS CASREACT 109:149016  
AB Two telluronium ylides, dibutyltelluronium cyanomethylide and phenacylide,  
were synthesized and reacted with carbonyl compds. to give  
 $\alpha,\beta$ -unsatd. nitriles and ketones. In presence of di-Bu  
telluride,  $\alpha$ -halo ester, and  $\alpha$ -halo nitrile and  $\alpha$ -halo  
ketone also condensed easily with carbonyl compds. to afford a simpler  
method for the synthesis of  $\alpha,\beta$ -unsatd. esters, nitriles, and  
ketones.

CC 25-20 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)  
Section cross-reference(s): 29

ST telluronium ylide reaction carbonyl compd; ester unsatd alpha beta; ketone  
unsatd alpha beta; nitrile unsatd alpha beta

IT Carbonyl compounds, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with telluronium ylides)

IT Ylides  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(telluronium, reaction of, with carbonyl compds.)

IT Carboxylic acids, preparation  
( $\alpha,\beta$  unsatd., Me esters, preparation of, from  
carbomethoxymethyldibutyltelluronium bromide and benzaldehydes)

IT Nitriles, preparation  
RL: SPN (Synthetic preparation); PREP (Preparation)  
( $\alpha,\beta$ -unsatd., preparation of, from dibutyltelluronium  
cyanomethylide and benzaldehydes)

IT Ketones, preparation  
RL: SPN (Synthetic preparation); PREP (Preparation)  
( $\alpha,\beta$ -unsatd., preparation of, from dibutyltelluronium phenacylide  
and benzaldehydes)

IT 111873-48-4P 111873-49-5P 111873-50-8P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and reaction of, with carbonyl compds.)

IT 614-48-2P 953-26-4P 956-04-7P 1222-98-6P 1608-36-2P 1664-59-1P  
1774-66-9P 3650-78-0P 4360-47-8P 4435-18-1P 4786-24-7P  
27892-88-2P 28446-68-6P 28446-70-0P 28446-72-2P 74738-21-9P  
76386-57-7P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

IT 38788-38-4, Dibutyl telluride  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with chloroacetonitrile)

IT 70-11-1 96-32-2, Methyl bromoacetate 107-14-2, Chloroacetonitrile  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with di-Bu telluride)

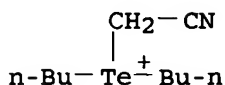
IT 105-36-2, Ethyl bromoacetate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with di-Bu telluride and nitrobenzaldehyde)

IT 67-64-1, Acetone, reactions 89-98-5, o-Chlorobenzaldehyde 99-61-6  
100-52-7, Benzaldehyde, reactions 104-87-0, p-Methylbenzaldehyde  
104-88-1, p-Chlorobenzaldehyde, reactions 108-94-1, Cyclohexanone,  
reactions 123-11-5, p-Methoxybenzaldehyde, reactions 555-16-8,  
p-Nitrobenzaldehyde, reactions 1122-91-4, p-Bromobenzaldehyde  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with telluronium ylide)

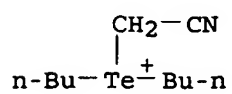
IT 111873-50-8P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and reaction of, with carbonyl compds.)

RN 111873-50-8 HCAPLUS

CN Telluronium, dibutyl(cyanomethyl)-, chloride (9CI) (CA INDEX NAME)

● Cl<sup>-</sup>

L11 ANSWER 12 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1988:21394 HCAPLUS  
 DN 108:21394  
 TI A novel route for the synthesis of  $\alpha,\beta$ -unsaturated esters, ketones and nitriles using dibutyl telluride  
 AU Huang, Xian; Xie, Linghong; Wu, Hong  
 CS Dep. Chem., Hangzhou Univ., Hangzhou, Peop. Rep. China  
 SO Tetrahedron Letters (1987), 28(7), 801-2  
 CODEN: TELEAY; ISSN: 0040-4039  
 DT Journal  
 LA English  
 OS CASREACT 108:21394  
 AB In the presence of Bu<sub>2</sub>Te, RCH<sub>2</sub>R<sub>1</sub> (R = Cl, Br; R<sub>1</sub> = CO<sub>2</sub>Me, CO<sub>2</sub>Et, Bz, cyano) condense with R<sub>2</sub>C<sub>6</sub>H<sub>4</sub>CHO (R<sub>2</sub> = p-NO<sub>2</sub>, m-NO<sub>2</sub>, p-Br, p-Cl) to afford 76-93% (E)-R<sub>2</sub>C<sub>6</sub>H<sub>4</sub>CH:CHR<sub>1</sub> (same R<sub>1</sub>, R<sub>2</sub>) in 1 pot. A possible mechanism is proposed.  
 CC 25-2 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)  
 ST halo ketone condensation arom aldehyde; condensation haloester  
 benzaldehyde deriv; tellurium Wittig benzaldehyde haloester; unsatd ester; nitrile unsatd; ketone unsatd; phenylacrylonitrile; acrylonitrile phenyl; propenoate nitrophenyl; bromophenylpropenoate; nitrophenylpropenoate  
 IT Wittig reaction  
 (of benzaldehyde derivs. with acyldibutyltelluronium halides)  
 IT 637-57-0P, Methyl (E)-3-(p-nitrophenyl)propenoate 659-04-1P 2960-55-6P  
 22252-16-0P 22966-09-2P 24393-61-1P, Ethyl (E)-3-(p-nitrophenyl)propenoate 24721-24-2P 29246-70-6P, (E)- $\beta$ -(p-Nitrophenyl)acrylonitrile 71205-17-9P, Methyl (E)-3-(p-bromophenyl)propenoate  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 IT 99-61-6, m-Nitrobenzaldehyde 104-88-1, p-Chlorobenzaldehyde, reactions  
 555-16-8, p-Nitrobenzaldehyde, reactions 1122-91-4, p-Bromobenzaldehyde  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (tellurium Wittig reaction of)  
 IT 70-11-1, Bromomethyl phenyl ketone 96-32-2, Methyl bromoacetate  
 105-36-2, Ethyl bromoacetate 107-14-2, Chloroacetonitrile 111873-48-4  
 111873-49-5 111873-50-8  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (tellurium Wittig reaction of, with benzaldehyde derivative)  
 IT 38788-38-4, Dibutyltelluride  
 RL: PROC (Process)  
 (telluroinium salt formation of, with halo esters, ketones, and nitriles)  
 IT 111873-50-8  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (tellurium Wittig reaction of, with benzaldehyde derivative)  
 RN 111873-50-8 HCAPLUS  
 CN Telluronium, dibutyl(cyanomethyl)-, chloride (9CI) (CA INDEX NAME)



=>